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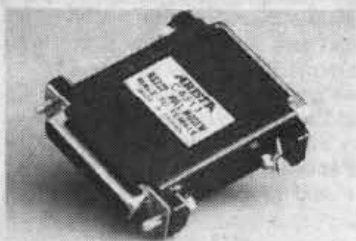
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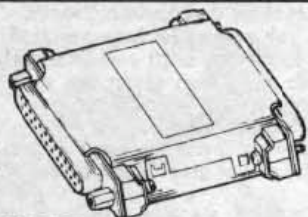
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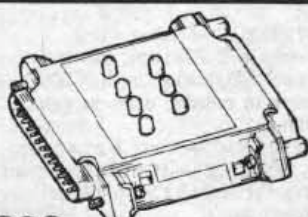
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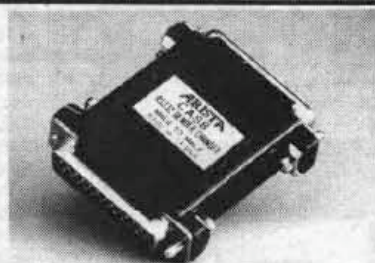
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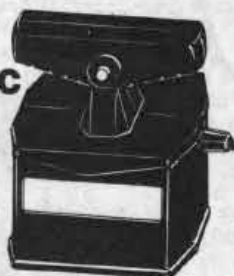
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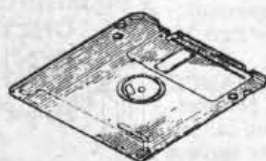
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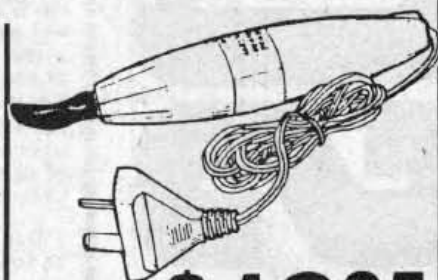


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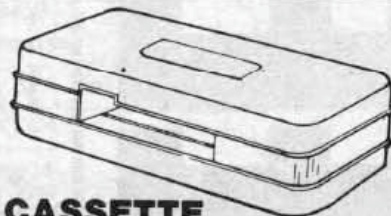


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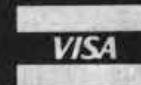
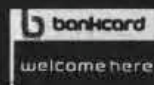


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This magazine is for computer users _ especially Tandy, IBM and Viatel users.

The material is supplied by the users. It is volunteered and remains the property of the individual authors.

Authors can be contacted by placing your letter in a self addressed, stamped envelope care of GOLDSOFT.

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Meredith



Deon



Karen



Sheryl

Jim

Season's Greetings

Graham



Alex



From all of us, to you and your family, thank you for being a part of Goldsoft this year!

Happy programming and happy Christmas from us all!

C L U B R O O M

Happy Christmas From Us!

Here we are - its Christmas already!!

Have a top one - hope you all enjoy yourselves. Please stay safe on the roads - we hate losing readers!

Welcome New Readers

This is the time of year that we pick up most of our new readership.

Logical really - its the time when Santa delivers most of the home computers to the world's fire places!

As a new reader, you're probably going to look askance at a few pages in this magazine - and a lot more so at the pages of your new computer's operating manual!

The purpose of this magazine has always been to try to bridge the gap between what you know at present, and what you need to know! We aim to help you learn about your computer.

So from the outset, we want you to understand that should you ever have a problem with your computer, you are welcome to call us. We'll do our best to assist you.

How long does it take to become proficient - I hear you ask!

Well it depends what you want to achieve with your computer.

If you just want to run existing programs, then it should not take all that long.

Most ready to run programs are very easy to get going - and these days the instructions for even the more complex programs are much easier to follow.

But if you only run other people's programs, you'll only get a maximum of 50% of the value from your computer!

At Goldsoft we've always encouraged readers to attempt programming. No, not because it helps to fill out the magazine (- we can always print reviews instead)!

The reason is twofold.

One, there is a whole world of knowledge to be gained in the doing, which is both interesting and vocationally useful; and two, it is unlikely that you'll ever be in a position to own programs to do ALL the tasks you want your computer to do - even in this day and age of public domain software.

But for now, don't hassle over the programming side, unless you are keen to try. Just have some fun! Get hold of some software and try it out!

What sorts of software are there?

Well just about anything you can think of - and perhaps some!

For example, whether you own a compatible (the term we use to describe the IBM PC compatible computers such as the Tandy 1000), or you own the Tandy Colour Computer, you can obtain software which will allow your computer to:

- * become a wordprocessor
- * become a number processor
- * become a filing cabinet
- * become a music synthesiser
- * become a speech synthesiser
- * understand what you say to it
- * become a games machine
- * process data (do lots of maths quickly)
- * design graphics
- * assist you with you or your children's schooling
- * assist you to learn how to make your computer work even better
- * communicate with other computers or devices such as FAX machines
- * control anything electrical - eg robots, exchanges, burglar alarms etc.

When you do decide to have a go at programming, start by working through your computer's manual. Then type in some of the shorter programs from the magazine.

Errors are likely - but if you don't make the errors you won't learn! So accept that there will be errors, then find help to fix them.

Finally, what do you do when you need help?

Believe it or not, lots of people before you have had to learn about their computer in the same way as you.

We've been there, and we understand the frustration of trying to make the computer go when it seems determined not to!

So how do you, as a new user, cope with problems?

The first line of enquiry could well be back at the place you purchased your computer.

Many of the computer stores around Australia and Canada have permanent help on site in the form of resident computer experts.

However often you'll find early on, the limit to their abilities. Its not that they are stupid, its just that in the computer world, none of us can hope to know everything about everything!

You need to build a network of advisors. Ultimately, you'll be contacting one person for one class of advice, and another for other forms of advice.

Contact one of the people listed in this magazine. Many of these people are the contact points for extensive local networks of computer users.

If there is a local users' group, give it a try.

Remember that users' groups are like any other club - you WILL be welcome - but because you are new, you yourself may feel like you are intruding at first. I can assure you that this will not be the case - give it time - the benefits are immense.

Don't forget us either! If you need help we will do our best for you!

Brisbane Computer Show

Judging from the attendance and the interest level at the Brisbane Computer Show, this Christmas looks like being quite a busy one for the computer industry.

In fact, the amount of interest shown by people was phenomenal!

I won't be at all surprised to hear some of you calling to ask if we can find computers for you - because frankly, with demand looking the way it does, I think many stores are going to run out of supplies!

Considering Computers

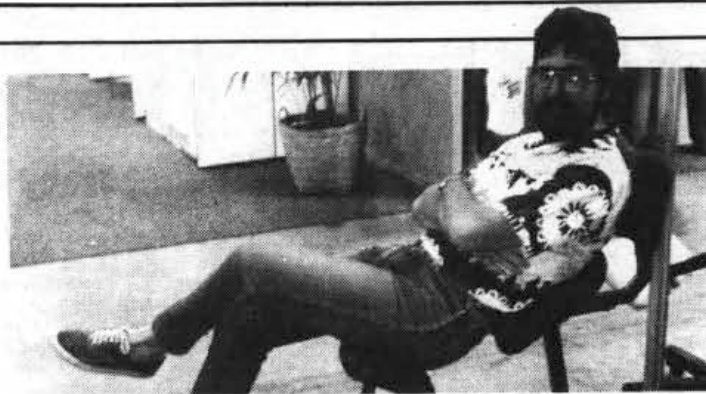


Rob Horking

Rob Horking's Considering Computers store in Brisbane is a great place to stop in at if you are looking for compatible hard or software.

Some of the lines he has there are virtually unobtainable elsewhere!

But the big plus that Rob offers, which is the reason we think so much of the store too, is that he offers 24 hour PERSONAL service for all his computers!



Chair'ING' THE SHOW

This very relaxed gentleman is just one of the thousands who tried out the INFO Chairs at the Brisbane Computer Show.

This particular model can be used in two different ways - this is the relaxed version - and it is legit! The chair has been designed for use this way - or in the more normal manner.

If you spend long hours at your keyboard - then this is the only chair to spend them on!

We have been long term Tandy supporters for the same reason - you can't find good service very often these days, and Tandy stores specialise in it (and if they don't write me about it)!

But to find a store that offers 24 hour service - well that's one thing better and we congratulate Rob on his commitment.

Other New Advertisers

We welcome more new advertisers to these pages again this month and again we ask that our readers assist by mentioning the name of the magazine to the advertiser when talking to them about their goods.

Needless to say, it is the advertising (what little there is of it!) that helps us to maintain the low price of this magazine.

CoCo News

For new readers, please note that the nickname for the Tandy Colour Computer is the "CoCo".

We apologise to those of you who had to wait for 64K upgrades. Unfortunately we were out of stock for quite some time.

That situation is now remedied and the chips are here and the upgrade will cost only \$65.

New "Best of's" are due out this month in the 16K and 64K Games series.

Again for new users, each of our magazines has a tape/disk version, on which is all the programs from the magazine.

Australian CoCo magazine has "CoCoOz", Softgold has (funnily enough) "Softgold on Tape/Disk".

CoCoOz has been running for years, and we've looked back through the huge library of tapes to find the best programs in various categories.

The "Best of" series is the result.

Each tape has fourteen plus programs on it, often reworked to operate on today's CoCo's.

There are Games tapes, Education tapes, Utilities tapes, Adventures tapes, Education tapes - and lots more!

And at \$19.00 (I think - please excuse if price is incorrect), from your local Tandy store - or from us direct, this is a top way to get a number of programs into your library cheaply.

The big news for CoCo 3 owners is that at last there is a large number of CoCo 3 programs in Australia in time for Christmas.

Tandy have scoured Australia and America and come up with quite a large number - and if that wasn't enough, Blaxland Computer Services have also been able to import some different software for Christmas.

You wanted software - at last it's here!

Sales of CoCo 3's continue to be strong.

The pundits who said that the computer was finished did not take into account either the computer's price or the abilities of the computer!

Not everyone is so well to do that they can afford the huge prices of some of the compatibles - or even of the alternatives.

The CoCo 3 is a top way to "test the water" - to see if computing is for you and your family. And once you decide in the affirmative, to go on and grow a computer system which is equal to the best available.

Speaking of CoCo 3 software, the Pursuit game by Craig Stewart has now made it into the Tandy stores.

This, like Donut Delema, is an Australian game and deserves your interest.

We often hear people either bemoaning the inability of Australian programmers to produce competitive product, or we hear the opposite - we hear how we can do anything anyone else can do - but we rarely see the evidence of it!

Well here are two programs that need "your money where your mouth is" support!

They should both be in stock in your local Tandy store too.

So, if the manager at your store hasn't had the good judgement to order them in, you jolly well make him get one in for you!

Compatibles News

One of the information providers on Goldlink that we don't hear of in the magazines very much is Ron Waterhouse's Power Code.

In Ron's column on Viatal this month he had some advice which I thought was very timely.

He says:

"The 20Mb hard drive market is suffering and many people are becoming annoyed and disillusioned with disk crashes and other general small but nagging problems. The reason is simple. Competition has dictated cheaper prices, resulting in a state of lower quality imports and a higher failure rate for new drives."

"As local manufacturers, we are well aware of this problem, and expend considerable time and money trying to "save" data for people who bought cheaply from well-advertised importers, some of which have stopped trading. We know of two others who have no service facilities! Sadly, occasionally we have to tell the unfortunate owner that spares are not available and no software updates can be obtained. We cycle our 20Mb drives for two days before we are satisfied that the drive will outlast the warranty and produce another enthusiastic customer."

"The 40Mb market does not have the same pressure, but it is increasing, whereas with 80Mb, 150Mb and upwards, the quality is excellent with figures of 30,000 hrs between failures easily achievable. This really means an expected life of five years between failures."

"Believe me - in 5 years we will have a very different technology. If you saw me at Comdex 87, you probably saw the 200 Mb optical disks in my wallet, the same size and thickness as a bankcard!"

"We often get asked if it is necessary to park the heads of a drive. The answer is "yes" on a drive which uses a stepping motor - especially when transporting the drive. This mainly applies to 20 Mb and 40 Mb drives."

"Parking is not required on any drive supplied by MEGA-Mac

POWER CODE, as we use linier motor drives and these are self parking on shutdown or power failure, and are secured by both eddie current and permanent magnet in the park position. Of course, the PARK command is available on the utilities supplied for the cautious, disbelievers and careful!"

"Might I suggest one way of being kind to your hard disk, is to leave it running continually."

"Why? Well, one reason is that the five to ten degree temperature above ambient, at which the operating drive runs, eliminates condensation and associated corrosion problems. Secondly, when the drive is stopping, the heads can drag on the disk surface where a combination of rubbing and back-emf on deposited media disks can cause scratching and erasure of data."

"Forseeing this possibility is one of the reasons we only use either plated media or ceramic disks."

Computerland, another advertiser of ours on Viatel, is very keen this month to tell everyone about RapidFile, an easy to use file management system by Ashton Tate, makers of the famous dBase III software.

The target usage for RapidFile is name and address lists, mailing labels, business form letters and any other filing data which also requires calculations.

Naturally it is not seen as a replacement for dBase III which would be used where a programming language is needed for more intensive data storage applications - however, for the first time user the program is easy to use and very quick for creating a simple database.

The cost is about \$250 at any Computerland store.

Micro Educational, advertisers on Goldlink, have a LogiMouse C7 for sale this month.

This mouse is opto-mechanical 200DPI, has a programmable baud rate, a 3 button design, is made in the US from Swiss componentry, is fully compatible with all mouse software and comes with a driver, a menu creator, click, Lotus 1-2-3 driver and a window text editor - all for \$225 including tax!

The largest PC show in the US is the Comdex show which this year was held in Las Vegas.

There was a record number of visitors - some 85000 of them (!) and there were 1500 stands!

The show of course was held against the backdrop of the stock market crash and was interesting because it reflected the response seen in microcosm at Brisbane - in other words, the buyers were there buying in big numbers!

Whilst on Comdex, it appears that IBM were there trying their best to talk up flagging industry interest in OS/2.

They say that shipments will have started in the US in November - which makes the original January date in Australia look about right.

IBM also announced the sale of its one millionth PS/2 computer during the show.

They've done that in seven months - verses the two years it took to do it with the PC!

OS/2 was also being demonstrated at the Comdex show by Compaq, Zenith and AST Research.

Cobol - The Coming Thing!

We've been saying for sometime that Cobol is the language that younger people should be learning at home.

Now comes news that US experts have estimated that there are already 80 billion lines of Cobol language in programs over there!

It appears that the use of Cobol in the US is increasing at the rate of 1.5 billion lines a year and that this rate of increase is likely to continue because Cobol is now the language taught in most US universities.

Cobol is available for the CoCo 3 and the Compatible computers - so if you have an interest in becoming a computer programmer when you leave school, you could do worse than purchase a copy of the Cobol program to suit your computer!

Johanna Vagg & Dr CoCo

Johanna has offered to assist Dr CoCo with your Tandy Colour Computer problems, so we hope to be able, in the future, to get these attended to more quickly.

Viatel News

Viatel's marketing plans have taken them far from the home market sphere over the last six months.

The result is reflected in the number of new faces on systems directed at the home user, such as our own.

Never the less, the existing users are certainly making use of our system!

In fact for a while there I thought we'd become the Commodore users' support system, because the Commodore parts of our system have been extremely busy. But just of late, the Tandy users have started to return in force - great to see!

We are involved in a project which will see public access Viatel units placed across the country.

They're like a public phone - only they are a Viatel terminal, and everyone - Viatel members

AND non Viatel members can use them.

We have a model for inclusion in a shop, free standing models, and other specialised models too.

Initial tests are being run on the software download system at present. By Christmas, it should be operating.

You'll be able to get the programs from the magazine - for both the Compatibles and for the Tandy Colour Computer - off Viatel very soon!

The Adelaide Bash was held on Sunday 15th November and was a huge success.

I hear there were about 40 there - mostly from Melbourne with a few from Sydney - and that Ray's place needed redecorating afterwards!

Apparently the noise of the Grand Prix was a little too much for some!

(The pre-GP party went all night!)

Competitions

All competitions due to finish in November have been extended until the 7th February.

Anyone who intends to enter the Bi-Centennial programming competition, please contact me.

Club News

Once more I should just say to new users that there are 150 contacts listed in this magazine to whom you can go for assistance when you need it.

You should never end up in a situation of not knowing what to do next!

In conjunction with Johanna Vagg's new jpb with Dr CoCo, she has offered to become a kind of reference point for all the tricky problems.

So there's one less reason to get stuck with a problem!

The Moe & District club continues to be THE place to go for computer support in the La Trobe Valley.

Joseph Hester says that there are now a number of Amstrad users coming to the meeta.

Joseph is also looking for articles and programs for the club magazine - so anyone who can help there please contact him.

The Adelaide Micro Users' Group also continues to go from strength to strength with the latest edition of their newsletter being very informative.

Unfortunately their Bulletin Board system has been dropped. It appears they have experienced the same problems we had when we were working with that style of board.

Congratulations to Ken Wagnitz and the team in Adelaide - keep up the great work!

Christmas Bash

I wish to report that the Christmas bash is still on and we're looking forward to a large number of people being here for it!

The party starts at 4pm 12th December, on the beach on the Southport spit, opposite Seaworld.

That is on the surf side, near the car park. We'll be parking at the northern end and the party takes place to the north of the track that leads to the surf.

Sounds a bit complex, but you'll find us because we're likely to be the only large group on that part of the beach!

Come along - we'll have a Viatel terminal operating on the Cellular Phone system, we will be night surfing, and Karen has thought up a couple of crazy things to do once it gets dark!

Needless to say, bring your swimmers - even if you are not going to swim!

Oh & whilst we will be providing some snacks, bring some food and drink for yourself. It will be possible to BBQ.

January's Magazines

January's Australian CoCo Magazine is the annual reference issue.

Anyone who owns a CoCo will benefit from this magazine, which is designed to be kept close by your computer for reference purposes.

There are lists of Peeks & Pokes, a Printer Reference Table, Bulletin Board numbers, a Glossary, a list of all previous CoCoOz's and Softgold on Tape/Disks and a heap more information you'll need to assist you throughout the year!

Softgold Magazine next month will follow a similar pattern for Compatible computer owners.

Even as I write, Dean sits at his desk typing his fingers to the bone, preparing all sorts of goodies for you all next month!

January's magazines are always fun - look for them in the store you purchased this one - or, if you prefer, subscribe!

Thanks to the Staff

To all those who have worked for Goldsoft this year, either in a full time capacity or part

time, we say thank you.

This enterprise has been a very difficult undertaking and I think this past year in many ways, has been as difficult a year as we ever want to have.

But our staff as always have dedicated themselves to the task and really done a magnificent job.

Tandy Store Award.

This month the Tandy Store Award goes to Blaxland Computer Services, who have done a brilliant job this year in support of the CoCo 3.

As mentioned last month, Bruce and Roger at Blaxland are the gentlemen of the industry - so you have no worries of being pressured into purchasing things you don't need.

Have a top Christmas guys - you deserve it!

TRY TO SURVIVE

pursuit

by Craig Stewart

For the 128K CoCo 3.

AVAILABLE FROM YOUR LOCAL TANDY STORE!



THE OH! ZONE

by Alex and Deon



Correspondence for THE OH ZONE should be addressed to either ALEX, CoCo problems, and DEON, TI000/IBM hassles.

Our address is:
THE OH ZONE,
PO Box 1742,
Southport, Q,
4215.



Dear Alex

My name is Nick and I own a CoCo 2. I would like to ask you a question.

In the May 1987 edition of CoCo, there is a program called "Gun Fight", by Craig Stewart on page 14.

I've checked the program several times and had found no errors. After running the program an ?OD ERROR in line 30 developed - now an ?OD ERROR in the colour basic manual is said that a READ statement was executed with insufficient DATA for it to read.

A DATA statement might have been left out of the program, but as I said I have checked the program.

Then I tried typing in PCLEAR1 and it worked!

Now my partner seems to be winning - I keep pressing the spacebar and nothing happens.

Help!!

Nick Bogdanis
Melbourne, VIC

Nick,

Why not save the program as a machine language program first on a separate tape and then re-load the game, after doing a cold-start?

How do you do that? Easy!

To save a machine language program, you need a start address, and end address and an execute address.

In the program, they are found on lines 20 and 40.

* Line 20 contains the start and end address (18688 = start address, 23701 = end address), while ...

* Line 40 contains the execute address (exec = 18688)

Knowing the above, you have to load the basic program (after typing PCLEAR1) first and take out (delete) line 40, so the program doesn't execute. Now RUN it ... after a few seconds the 'OK' prompt should appear.

Now type:

CSAVEM"GUNFIGHT",18688,23701,
18688

Next time you load it, you won't be bothered with ?OD ERRORS.

Tell me how you went.

Dear Alex

I recently bought a Commodore 1350 Mouse and was wondering what is involved in converting it to work for the CoCo 3?

Is it simply a matter of

making an adapter (the pin configuration is 1-up, 2-down, 3-left, 4-right, 6-button #1, 7-+5 volts, 8-ground, 9-Button #2), or does the inside need to be modified as well?

Also, does the mouse need a driver or will it work like a joystick? Can it be then used with a hi-res joystick port such as CoCoMax?

Chris Dent
Ascot Park, SA

Chris,

The basic difference between a Commodore joystick (of any kind) and a Tandy joystick is that the Commodore one is an analogue joystick, ie it uses 'buttons' as a form of movement, while the Tandy one is a digital joystick, ie the ports in the computer uses sensors as opposed to buttons.

There was originally going to be a hardware modification put in last month or the month before regarding converting Commodore joysticks to work on Tandy computers, but for this reason, we decided to put it in the January edition.

When you're converting your joystick, you will be working with solder, soldering iron and all the rest ... I will add my bit to the hardware article to adapt your mouse (or joysticks with two buttons) to a CoCo 3.

The end result? It will work like a proper joystick, and can be used in any application, like for example, the CoCoMax Joystick port.

Dear Alex

I'm writing to ask if you could print some POKES that will change the baud rate to and from the cassette player. I especially need one to change the cassette port to 300 baud.

Also, could you list a graphics character generator that's easy to link to any program.

Gabe Adair
Earlwood, NSW

Gabe,

The cassette port, to my knowledge, cannot be changed. It stays at 1500 baud. But why don't you use the printer port?

You can change the baud rate quite easily with a simple POKE! Also, the printer port supports everything from 50 baud to 19200 baud, including 300 baud, the baud rate you want.

As for character generators, can anyone help?

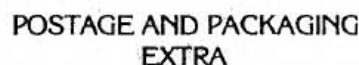
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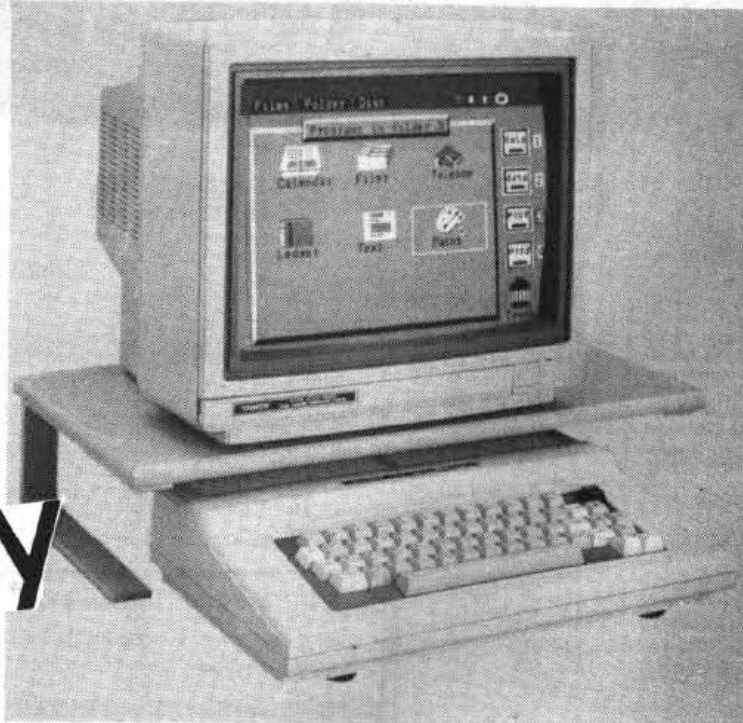
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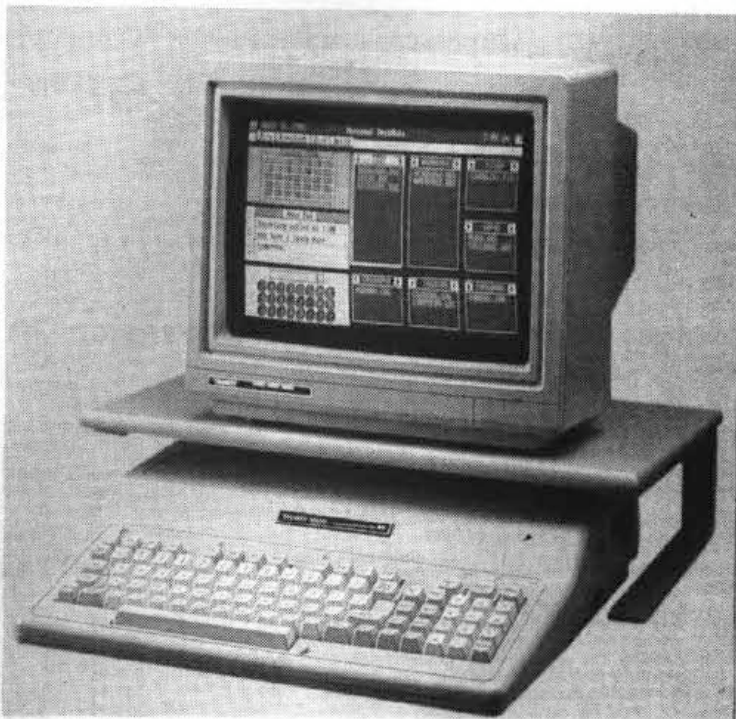
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The one piece design of the Tandy 1000 EX offers convenient portability – just plug in a monochrome or colour monitor!

If you've been searching for the computer that's just right for you – then the Tandy 1000 EX is it! **\$1299.00**



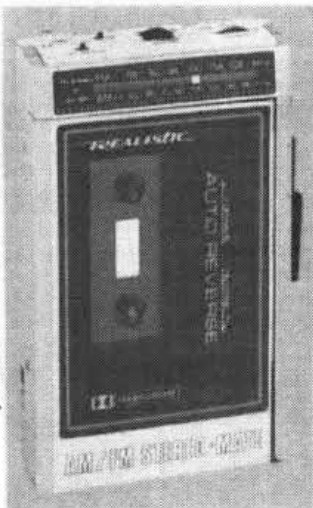


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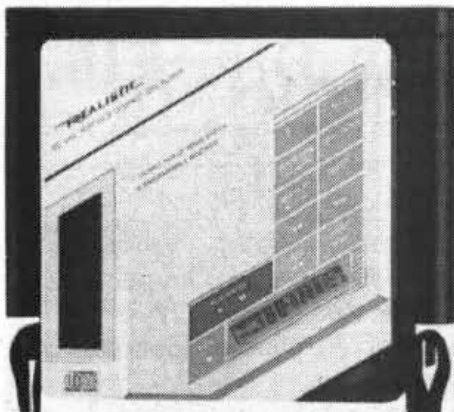
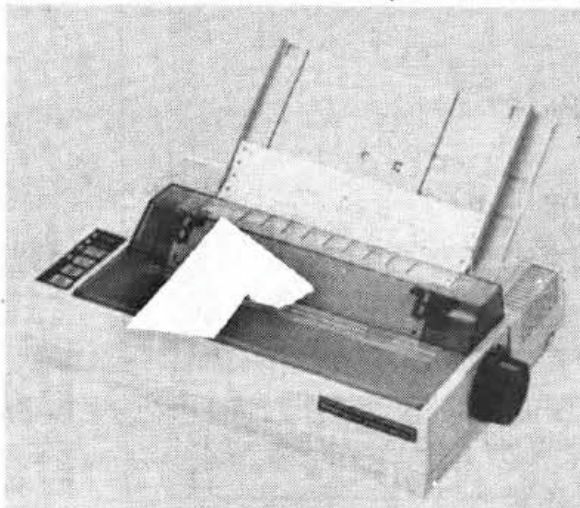
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Released in time for Christmas, the Tandy 1400LT is a full function IBM PC compatible computer which features a high quality Supertwist backlit LCD display, 7.16 MHz clock speed, and comes with 788K RAM and two 8.9cm built-in disk drives.

The Tandy 1400LT is the perfect solution for people who spend most of their time traveling.

You'll be able to finish reports and memos, organise your presentation materials anytime, anyplace, because the Tandy 1400LT also features a battery system which gives you a whopping 4 hours between recharges!

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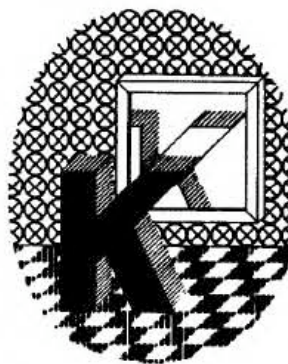
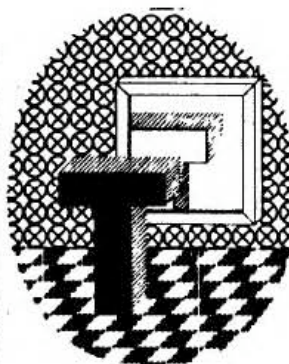
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HEY KIDS!

You wanted a page all to yourselves... ok, you got it! Tandy Computer Kids Korner (TCKK for short) is now a regular feature in SOFTGOLD magazine. TCKK is YOUR page kids and to keep it going we are going to need your

H-E-L-P! Write, phone, send a carrier pidgeon, anything, just let us know what you want to see in TCKK each month.

Doesn't matter what it is (NO centrefolds - Ed) Jokes, cartoons, pics... anything...there's one catch though, YOU will have to send them. So get your noggin's working and send your efforts to TCKK care of SOFTGOLD and we'll do our best to get them in. To start the ball rolling we have our first

competition. Just colour in the gentleman below and send your entry in to Softgold to win...ta da... a box of disks!!

Winner will be announced in Feb's mag. Ok? 'Til next month, welcome to TCKK, TC ya later!!

FIND THE WORD

D L A R T T M X X C Q U
S U I Y C O Q C O B U N
O G O K N B E C S T Z O
H P A I S V O C G Q G I
H A T M I I I C C N R S
L O R R E H D H I E I I
R W D D P Q R Q T E O V
F A U A W I Q U O M D E
T X R I S A P Y S I N L
Z G Z T N M R E Z N K E
Q Y M A O A T E N E Y T
C A E C U Y S C Y D O S
S E W S B C O B N C O Y
I A E K R L O A E F A E
B R P O O A T R T T D N
T A M U R E T W N O E V
U M R D X L A A M E I Q
Q T E D M R S T R E N B
Q Q X X E I B C N U W G
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GAME
MONITOR
SOFTWARE



Name.....

Address.....

Age.....

What type of computer do you use?.....

FARM

By Erin Kerstin

GRAPHICS
32K ECB



FARM IS A SMALL graphics program that depicts the average farming property usually found beyond the black stump - so have a close look and enjoy it!

The Listing:

```
0 GOTO10
3 SAVE"21:3":END'5
10 FOK65495,0
20 CLS0
30 GOTO 110
40 *****
50 **FARM BY HARLEND KERSTEN**
60 **          9\6\87          **
70 **FARM USES HIGH SPEED POKE*
80 ** TO HURRY UP THE DRAW **
90 *****
100 CSAVE"FARM":END
110 PRINT@174,"farm";:PRINT@192+
8,"by"CHR$(128)"harlend"CHR$(128)
)"kersten";:PRINT@224+1,"please"
CHR$(128)"wait"CHR$(128)"thirty"
CHR$(128)"five"CHR$(128)"seconds"
";
120 CLEAR500
130 PNODE3:PCL52:COLOR4
140 V$="S1U16R4U4L4U4L4U8L4U4L4U
4L8U4R4U4R8U4R8U4L4D12R4D4R4D4R8
U4R20D4R8D4R4D4R4D4R4D8R4D8R4D16
R8D8R8D4L4U8L8U8L8U8L4U8L4U4L4D4
L4D8R4D8R8D4R4D4R4D4R4D4R4D4R4D4
L8U4L4U4L4U4L4U4L4U4L8U4L8U4L4U8
L4U12L4D4L8U4L4D8L12D8R8D4L4
150 P$="S2C1L4D4L4D4L4D8R4U4L8D1
2L8D4R4U8L4U12R4U4R4U4R8U4R4U4L1
6D4L4D4L4D4L12D12R4U4L8U12R4U4R4
U4R4U4R4U4R8U4R12D4R4U8L8U4L8D4L
4D4L8D4L4D4L8D4R4U12R4U4R4U4R4U4
R4U4R20D4R8U4L4D8R4D8R4U4R4U4R4U
4R4U4R16D4L8D4R12D4L8D4R8D4R4D24
R4U4L8U8L4U4L4U4L4U4L4U4L8
160 P1$="D4L4D4R8D4R8D4R4D4L4D4R
4D20R4U8L8U8L4D4L4U4L4U4L4U4L4U4
L4D4
170 J$="S2R4U4L4U4L8D8L4U4R8U8L8
U4R16U4R4D4R4U4R4U4R4U4R12D8
R4D4R12U4R16D4R4D4R12U8L8U8L12U4
R8D8R8D16L4D12L4D8R4D20L8D4R4U20
L4D4L4D4L8D8L8D4R4U8R8U12L4U4L4U
```

```
4L4D4L4D4L4D4L4D8L8D8R4U16L4D4L4
D4L8D8L4U4R8U20L4U4L8D4L4D4L4U12
180 H$="S2U20C1R4L8D4L4D4L4D8R4U
4L8D12L8D4R4U8L4U12R4U4R4U4R8U4R
4U4L16D4L4D4L4D4L12D12R4U4L8U12R
4U4R4U4R4U4R4U4R8U4R12D4R4U8L8U4
L8D4L4D4L8D4L4D4L8D4R4U12R4U4R4U
4R4U4R4U4R20D4R8U4L4D8R4D8R4U4R4
U4R4U4R4U4R16D4L8D4R12D4L8D4R8D4
R4D4R4D8R4U4L8D16R4U4L8U8
190 H1$="L4U4L4U4L4U4L4U4L8D4L4D
4R8D4R8D4R4D4L4D4R4D20R4U8L8U8L4
D4L4U4L4U4L4U4L4U4L4D4C4D2D48L4U
28
200 A$="S3U12R4BR4U8R4D8L4R4BR8U
12L4U4R16D4L8D12L4U4L4U4R12D4L12
R4D4R4BR4D16R8U16L8D4L4D8R16U8L1
6R4U4R8BR4U12L4U4R12D4L4D12L4U4L
4U4R12D4L12R4D4R4BR8U8R12D8L12R1
2U8BU4L12U4R12D4BD4D8BR4U8R12BU4
L12U4R12D4BD4D8L12R12BR4R4U4R4D4
R4BD4L52D12L4D4L4D4L8U4L4U4
210 A1$="L4U12L16D8L4U12R4U12BR4
R4U4L4D4BL4L4U4R4U4R4U4R4D4L4U8R
8U8L8U8L12U4R4U4R4D12R8D8R8U20L4
U4R12D4L4D12R12D4L12D4BD4D8R4U8B
R4D4R4U8L4D4BL4L4BU4R4U12R4U4R12
D16R8U4L4U4L8U12R8D4R12D4BL4L4D8
R8D8R4U4L8U12BR4D4R4D4R4D4R4D8R4
D4R4D20R4U4R4D4R4
220 B$="BR8D4R8D8R8U8R8U8L8U8L8D
8L8D4BR4D8R16U16L16D8BL4BL8U8R4U
4R4U8R4U4R16D4R4D4R4D8R4D12R4U16
L4U8L4U4L4U4L4D28D12L4U8R8U28R12D2
OL8U12L8U12R20BD4D24R8U12L4D4R8D
8R4U4R4U12L4U8L16BU4R28D4L4D24R1
2U4L4U16R4U8R4D8R4D16L4D4
230 B1$="R24D4R4D4BL8L36D24R4U20
R16BD4D4R4U4L4D4BL4D8L4U8R4BR4U4
BU4R16U4BR8D12L16D8L8D4R4D4U4U8R
8U8R8D8R4D4R4D4BL8L8D8R8U8BR8D12
L4D4L4D4L8U4L4U4L4U8U4D4L8D4L8U4
L16U4D4L4D8L4D4L4D4L16U4L4U4L4U8
L4U4
240 C$="S2R4U12L4U20R8U4L4D12R16
U8R4D4R4D4R4D8L8D16L4U12L12D8R24
D4L4U8L12D8L4U8L12D8BR58U12L4U4L
4U4L4U16R8U8R4U4L4D8L8D8R32U12L4
U8R4U12L8D8L16U8R8U4L8U4L4D4L4D4
L4D24L8D16R4U28R12D4L16D4R12U16L
8U12L8U4R8U4R4U4R16D4R4D4R8D4L1
2D20R16U8L8D12R4D4R4D4R8D16L4
250 C1$="D4L4D4L4D4L4D4R8D8L12U4
```

```
L4D4L4
260 DRAW"BM28,162"+A$:DRAW A1$:D
RAW B$:DRAW B1$:DRAW"BM72,102"+H
$:DRAWH1$:DRAW"BM182,168"+C$:DRA
WC1$:DRAW"BM184,102"+H$:DRAW H1$
:DRAW"C4BM184,110D76R4U76":DRAW"
BM162,132"+J$
270 COLOR4
280 PAINT(134,124),4,4:PAINT(116
,164),3,4:PAINT(116,154),1,4:PAI
NT(164,168),3,4:PAINT(164,158),1
,4:PAINT(50,168),3,4:PAINT(44,16
0),3,4:PAINT(50,158),1,4:PAINT(2
16,154),3,4:PAINT(214,144),1,4:P
AINT(208,128),4,4
290 PAINT(68,78),1,1:PAINT(63,98
),1,1:PAINT(180,78),1,1:PAINT(17
4,98),1,1
300 PAINT(188,160),3,4:PAINT(84,
148),1,4:PAINT(74,148),1,4:PAINT
(68,146),1,4:PAINT(68,124),1,4:P
AINT(58,120),1,4:PAINT(62,116),1
,4:PAINT(50,112),1,4:PAINT(32,11
6),1,4:PAINT(152,140),1,4:PAINT(
128,140),1,4:PAINT(124,137),1,4
310 PAINT(182,132),3,4:PAINT(192
,132),3,4
320 DRAW"BM72,81"+P$:DRAW P1$:DR
AW"BM184,81"+P$:DRAW P1$
330 PAINT(86,72),1,1:PAINT(184,7
2),1,1
340 COLOR4
350 FOR P=0 TO 256 STEP 32
360 LINE(P,152)-(P,172),PSET
370 NEXT
380 FOR P=154 TO 170 STEP 4
390 FOR K=0 TO 256
400 LINE(K,P)-(K,P),PSET
410 NEXT K,P
420 LINE(16,136)-(16,152),PSET
430 LINE(234,136)-(234,152),PSET
440 LINE(16,138)-(28,138),PSET:L
INE(16,142)-(28,142),PSET:LINE(1
6,146)-(28,146),PSET:LINE(16,150
```



```

>-(28,150),PSET:LINE(88,138)-(98,
138),PSET:LINE(88,142)-(104,142
),PSET:LINE(88,146)-(102,146),PS
ET:LINE(88,150)-(100,150),PSET
450 LINE(168,138)-(174,138),PSET
:LINE(168,142)-(174,142),PSET:LI
NE(168,146)-(174,146),PSET:LINE(
168,150)-(174,150),PSET:LINE(174
,138)-(204,138),PSET:LINE(174,14
2)-(204,142),PSET:LINE(174,146)-
(204,146),PSET
460 LINE(174,150)-(204,150),PSET
:LINE(216,138)-(256,138),PSET:LI
NE(216,142)-(256,142),PSET:LINE(
224,146)-(256,146),PSET:LINE(224
,150)-(256,150),PSET
470 COLOR1
480 FOR A=0 TO 256
490 FOR B=172 TO 174
500 LINE(A,B)-(A,B),PSET
510 NEXT B,A
520 LINE(0,64)-(256,64),PSET
530 FOR Z=0 TO 256 STEP 80
540 CIRCLE(Z,64),50,,.25,.60,.95
550 NEXT
560 PAINT(4,60),1,1:PAINT(4,4),3
,1
570 COLOR4
580 DRAW"S4BM0,92U6BR16D6BR16U6B
R16D6;BM100,92U6BR16D6BR16U6BR16
D6BR12U6;BM212,92U6BR16D6BR16U6
590 FOR G=0 TO 48
600 FOR N=86 TO 92 STEP3
610 LINE(G,N)-(G,N),PSET
620 NEXT N,G
630 FOR N=100 TO 158
640 FOR K=86 TO 92 STEP3
650 LINE(N,K)-(N,K),PSET
660 NEXT K,N
670 FOR N=212 TO 256
680 FOR K=86 TO 92 STEP3
690 LINE(N,K)-(N,K),PSET
700 NEXT K,N
710 S=RND(256):B=RND(84)
720 IF B<64 THEN B=64
730 PSET(S,B,1)
740 X=X+1:IF X=200 THEN 760
750 GOTO 710
760 DRAW"BM216,112"+VS
770 PAINT(220,104),4,4
780 DRAW"C1BM220,120;R65
790 DRAW"C4BM48,89R4":DRAW"BM100
,86L4;BM100,92L4;BM158,89R4;BM21
2,86L4;BM212,92L4
800 SCREEN1,0
810 GOTO 810

```

⊕

BEGINNER'S BASIC

BASIC ALL SYMBOLIC INSTRUCTION CODE
PURPOSE



TUTORIAL by Jim Rogers

SO FAR WE HAVE examined and learned a number of command words which the computer recognises and obeys.

They were:

- * ENTER, which we must use to enter information into the memory,
- * PRINT, to tell the computer to print something on the screen,
- * LIST, to recall to the screen what we have put into the memory,
- * NEW to wipe out the memory,
- * RUN to make a program operate,
- * INPUT, to add information to a program, and
- * CLS, to clear the screen but not the memory.

We will be using CLS in the first line of a program to clear the screen of unwanted stuff which we may have accumulated there.

Now we will try a small program to calculate how many seconds there are in a year.

When typing in this program, if you make a mistake you will be able to delete a letter or letters or a whole line, before you press ENTER, by the use of the back arrow key for single

letters or the SHIFT plus back arrow for the full unENTERed block.

This rubbing out may vary in different computers but the method will be laid down in your operators manual. On the MC10, for instance, it is CONTROL A and CONTROL L DEL.

```

10 CLS
20 PRINT "IN ONE YEAR WE COUNT
OFF"
30 PRINT 365*24*60*60; Ys;
"SECONDS"
40 PRINT "AND IN A LEAP YEAR"
50 PRINT "AN EXTRA"; 60*60*24;
"SECONDS"

```

VARIABLES are storage spaces in the computer memory and can be likened to a bank of boxes.

In these boxes information can be stored and then later recalled to be displayed on the screen as required.

If a number is to be stored in one of these boxes, it is necessary to put a label on the box in which the number is stored.

Thus if our number should happen to be 698 then we use a letter to label the box and we now have A=698.

Many books of instruction use a command LET to put the

information into the memory. Thus LET A=698. You will find that this is not necessary with Tandy computers but as it is one of the commands we will include it.

In the BASIC language letters, symbols and words are called STRINGS and when you wish to store a STRING in a VARIABLE it must be enclosed in quotation marks.

A VARIABLE which contains a STRING is called a STRING VARIABLE and that label which we placed on the storage box must always have a dollar sign (\$) at the end of the label.

Let us try this with a small sample program.

```
10 CLS
20 LET A =50
30 LET K$=" KILOGRAMS "
40 LET F$ = " OF FISH "
50 PRINT A; K$; F$
60 END
```

Once again be careful to leave a space between Kilograms and the quote and between Fish and the quote so that the words do not run together.

Now try some variations of this program for practice and get used to the difference between VARIABLES and STRING VARIABLES.

You will have noticed that we have used letters as labels on the VARIABLES.

We can, if we wish, use a letter with a number such as:-

```
A1$="64"
A2$="65"
```

We can also use a short word but there some words which the computer will not accept.

These unacceptable words are those which have already been used up as Command Words. Thus LIST\$ or NEWS or RUN\$ etc, cannot be used.

Now try a variation of the use of your VARIABLES.

First we clear the screen by using CLS in the first line and then we end the program with the command word END in the last line.

```
10 CLS
20 LET A=20
30 LET B=14
40 PRINT A-B
50 PRINT (A+B)*A
60 END
```

Remember to press ENTER at the

end of each line to enter that line into the memory.

You have, once again, used your computer as a calculator and you will find that, by experimenting, you can make it do a vast amount of calculations.

Beware, however, that the computer will take the calculations in a certain order of solving.

This order of solving is as follows:-

Inside parenthesis are done first. If there is a double parenthesis the inner one is done first.

Then multiplication and division are next.

Addition and subtraction are done last.

In the case of there being more than one of these the computer will work from left to right.

We have already used the INPUT command so now we will take it a little further.

The INPUT command, as mentioned, is a method of adding information to the computer memory while the program is RUNNING and this information can be changed each time the program is RUN.

After typing in the INPUT

command you must always follow it with a VARIABLE label or a STRING VARIABLE label.

When you RUN the program the screen will display a question mark and waits for you to supply some information which will be tied to the label in the memory space.

We can demonstrate this with the following small program.

```
10 CLS
20 PRINT "WHAT IS YOUR NAME?"
30 INPUT A$
40 PRINT "WHERE DO YOU LIVE?"
50 INPUT P$
60 PRINT "WHAT STREET?"
70 INPUT S$
80 PRINT "WHAT NUMBER?"
90 INPUT N
100 CLS
110 PRINT A$ "LIVES AT "
120 PRINT N ; S$ " STREET"
130 PRINT P$
140 END
```

Try this program with your own variations and endeavour to expand it even further.

One small hint for you which will prove to be a time saver is instead of typing PRINT each time, replace it with the ? You will find that, when you LIST the program, it has changed to PRINT.

ANY PROBLEMS?

Over The Rainbow

By Johanna Vagg

GRAPHICS
CoCo3

RAINBOW IS A VERY small graphics program - it draws exactly that - a rainbow, in colour.

"Now we really have a Colour Computer!"

The Listing:

```
0 GOTO10
3 SAVE"12:3":END'5
10 REM RAINBOV BY Johanna Vagg
20 ON BRK GOTO270
30 HSCREEN2
40 PALETTE0,59
50 HCOLOR6,0
60 HPRINT(2,2),"Now we really ha
ve a COLOR computer!"
70 FOR=70 TO 140 STEP 10
80 HCIRCLE(160,191),R,3,.75
90 NEXT
100 FOR T=1 TO 3
110 FOR PA=8 TO 14
120 READ C
130 PALETTE PA,C
140 NEXT
150 DATA 32,38,54,16,8,33,47
160 P=8
170 FOR Y=90 TO 140 STEP8
180 HPAINT(160,Y),P,3
190 P=P+1
200 NEXT
210 HPRINT(16,22),"Any key"
220 EXEC44539
230 NEXTT
240 DATA 37,34,54,16,9,5,61
250 DATA 32,38,55,2,1,5,12
260 RESTORE:GOTO100
270 PALETTE RGB:END
```


When you're hot...

APPLICATION
16K COCO +
DMP 105
PRINTER

By Tom McCoy

OVEN TEMPERATURE is a small program I did last year when I first got my DMP 105 printer. The short program was my wife's idea.

She was always trying to find temperature conversions for her various cookbooks.

She wanted a quick chart to stick on the inside of the cupboard door and I thought it would be a good exercise to try out the new printer.

I couldn't get the print big enough or dark enough for her deteriorating eyesight but someone else may find a use for the chart program or just use it as a printer exercise.

The Listing:

```
0 GOTO10
3 SAVE"321:3":END'10
5 '***TOM MCCOY***
6 '*****OVENTEMP***'(7/1/86)
7 '****DMP 105 TESTOUT***
10 '**ELONGATION ON**
11 PRINT#-2,CHR$(27);CHR$(14)
20 '**TITLE BLOCK**
25 FORX=1 TO 2
30 PRINT#-2,TAB(1)CHR$(28);CHR$(
38);CHR$(229);:PRINT#-2,CHR$(27)
;CHR$(28)**TOP LINES & HALF LIN
E FEED**
35 NEXT X
40 PRINT#-2,TAB(1)CHR$(28);CHR$(
4);CHR$(229);**LEFT FILL**
60 PRINT#-2,TAB(34)CHR$(28);CHR$(
4);CHR$(229);**RIGHT FILL**
70 PRINT#-2,CHR$(27);CHR$(28)**
HALF LINE FEED**
80 PRINT#-2,TAB(1)CHR$(28);CHR$(
4);CHR$(229);:PRINT#-2,TAB(5)"OV
EN TEMPERATURE CONVERSIONS";:PRI
NT#-2,TAB(34)CHR$(28);CHR$(4);CH
R$(229);:PRINT#-2,CHR$(27);CHR$(
28)**EACH END & TITLE & HALF LI
NE FEED**
90 PRINT#-2,TAB(1)CHR$(28);CHR$(
4);CHR$(229);:PRINT#-2,TAB(34)CH
R$(28);CHR$(4);CHR$(229);:PRINT#
-2,CHR$(27);CHR$(28)**EACH END
AGAIN & HALF LINE FEED**
95 FOR Y=1 TO 2
100 PRINT#-2,TAB(1)CHR$(28);CHR$(
38);CHR$(229);:PRINT#-2,CHR$(27)
;CHR$(28)
105 NEXT Y**LAST LINES**
109 '**ELONGATION OFF,FULL LINE
FEED ON**
110 PRINT#-2,CHR$(27);CHR$(15);:
PRINT#-2,CHR$(27);CHR$(54)
210 PRINT#-2,CHR$(27);CHR$(31)
240 '**COLUMN TITLES & UNDERLINE
ON**
250 PRINT#-2,TAB(13);CHR$(15);"C
ENTIGRADE (C) FAHRENHEIT (F)
COMMON TEMPERATURE"
255 '**UNDERLINE OFF**
256 PRINT#-2,CHR$(14)
260 '**TEMPS**
270 PRINT#-2,TAB(13);" 60 C
140 F PLAT
E WARNING"
275 GOSUB1000
280 PRINT#-2,TAB(13);" 95 C
200 F COOL
"
285 GOSUB1000
290 PRINT#-2,TAB(13);" 120 C
250 F VERY
SLOW"
295 GOSUB1000
300 PRINT#-2,TAB(13);" 150 C
300 F SLOW
"
305 GOSUB1000
310 PRINT#-2,TAB(13);" 165 C
325 F MOD.
SLOW
315 GOSUB1000
320 PRINT#-2,TAB(13);" 175 C
350 F MODE
RATE"
325 GOSUB1000
330 PRINT#-2,TAB(13);" 190 C
375 F MOD.
HOT"
335 GOSUB1000
340 PRINT#-2,TAB(13);" 205 C
400 F HOT"
345 GOSUB1000
350 PRINT#-2,TAB(13);" 230 C
450 F VERY
HOT"
355 GOSUB1000
360 PRINT#-2,TAB(13);" 260 C
500 F TOO
LATE"
399 '**BLANK LINE & BOLD OFF**
400 PRINT#-2:PRINT#-2,CHR$(27);C
HR$(32)
405 '**ELONGATION ON**
Continued on p 52
```

```
90 PRINT#-2,TAB(1)CHR$(28);CHR$(
4);CHR$(229);:PRINT#-2,TAB(34)CH
R$(28);CHR$(4);CHR$(229);:PRINT#
-2,CHR$(27);CHR$(28)**EACH END
AGAIN & HALF LINE FEED**
95 FOR Y=1 TO 2
100 PRINT#-2,TAB(1)CHR$(28);CHR$(
38);CHR$(229);:PRINT#-2,CHR$(27)
;CHR$(28)
105 NEXT Y**LAST LINES**
109 '**ELONGATION OFF,FULL LINE
FEED ON**
110 PRINT#-2,CHR$(27);CHR$(15);:
PRINT#-2,CHR$(27);CHR$(54)
210 PRINT#-2,CHR$(27);CHR$(31)
240 '**COLUMN TITLES & UNDERLINE
ON**
250 PRINT#-2,TAB(13);CHR$(15);"C
ENTIGRADE (C) FAHRENHEIT (F)
COMMON TEMPERATURE"
255 '**UNDERLINE OFF**
256 PRINT#-2,CHR$(14)
260 '**TEMPS**
270 PRINT#-2,TAB(13);" 60 C
140 F PLAT
E WARNING"
275 GOSUB1000
280 PRINT#-2,TAB(13);" 95 C
200 F COOL
"
285 GOSUB1000
290 PRINT#-2,TAB(13);" 120 C
250 F VERY
SLOW"
295 GOSUB1000
300 PRINT#-2,TAB(13);" 150 C
300 F SLOW
"
305 GOSUB1000
310 PRINT#-2,TAB(13);" 165 C
325 F MOD.
SLOW
315 GOSUB1000
320 PRINT#-2,TAB(13);" 175 C
350 F MODE
RATE"
325 GOSUB1000
330 PRINT#-2,TAB(13);" 190 C
375 F MOD.
HOT"
335 GOSUB1000
340 PRINT#-2,TAB(13);" 205 C
400 F HOT"
345 GOSUB1000
350 PRINT#-2,TAB(13);" 230 C
450 F VERY
HOT"
355 GOSUB1000
360 PRINT#-2,TAB(13);" 260 C
500 F TOO
LATE"
399 '**BLANK LINE & BOLD OFF**
400 PRINT#-2:PRINT#-2,CHR$(27);C
HR$(32)
405 '**ELONGATION ON**
Continued on p 52
```

```
295 GOSUB1000
300 PRINT#-2,TAB(13);" 150 C
300 F SLOW
"
305 GOSUB1000
310 PRINT#-2,TAB(13);" 165 C
325 F MOD.
SLOW
315 GOSUB1000
320 PRINT#-2,TAB(13);" 175 C
350 F MODE
RATE"
325 GOSUB1000
330 PRINT#-2,TAB(13);" 190 C
375 F MOD.
HOT"
335 GOSUB1000
340 PRINT#-2,TAB(13);" 205 C
400 F HOT"
345 GOSUB1000
350 PRINT#-2,TAB(13);" 230 C
450 F VERY
HOT"
355 GOSUB1000
360 PRINT#-2,TAB(13);" 260 C
500 F TOO
LATE"
399 '**BLANK LINE & BOLD OFF**
400 PRINT#-2:PRINT#-2,CHR$(27);C
HR$(32)
405 '**ELONGATION ON**
Continued on p 52
```

OVEN TEMPERATURE CONVERSIONS

CENTIGRADE (C)	FAHRENHEIT (F)	COMMON TEMPERATURE
60 C	140 F	PLATE WARNING
*****	*****	*****
95 C	200 F	COOL
*****	*****	*****
120 C	250 F	VERY SLOW
*****	*****	*****
150 C	300 F	SLOW
*****	*****	*****
165 C	325 F	MOD. SLOW
*****	*****	*****
175 C	350 F	MODERATE
*****	*****	*****
190 C	375 F	MOD. HOT
*****	*****	*****
205 C	400 F	HOT
*****	*****	*****
230 C	450 F	VERY HOT
*****	*****	*****
260 C	500 F	TOO LATE

you're
how hot

THE PROGRAM displays a small christmas tree, bare of any trimmings. On the left side of your screen there are four boxes with a decoration in each one.

Use the right joystick to move the blinking box cursor into the decoration box and press the fire button. The box cursor will change to the tree decoration selected.

Move the decor over to the tree where you would like to place the decoration and press the fire button. The decor is now placed on the tree.

Move to a new position and continue to place the decor on the tree.

To cancel that decoration and choose a new one press the SPACEBAR - this will return the cursor to box one at the top of your screen.

Use the number keys "1", "2", "3" and "4" to quickly move the box cursor to a new decor box, then move into that box and press the right joystick fire button and continue to decorate the tree.

The program will save your christmas tree to tape or disk with a special basic loader to reload the binary file for viewing.

Take extra care when typing in this section (line numbers 1340 to 1630) as all information must be the same as listed.

To save your christmas tree press the "S" key.

The save menu will appear and give you the option to continue with the save or return to the christmas tree. Follow on screen prompts for saving to tape or disk.

When the saving is completed the program returns to the christmas tree for more decorations or another save.

When loading your saved decorated christmas tree rewind the tape (for tape users) and type CLOAD. The small basic loader that was generated before saving the christmas tree binary file will load.

Type run, leave the play button down on your cassette recorder as the basic loader will load your christmas tree from tape.

Instructions For Use

Use number keys "1", "2", "3" and "4" to move quickly to a decoration box.

Use the right joystick to move into choosen decoration box and press the fire button. Move to the christmas tree and press the fire button to decorate your tree.

Press the SPACEBAR to cancel cho sen decoration and home the cursor.

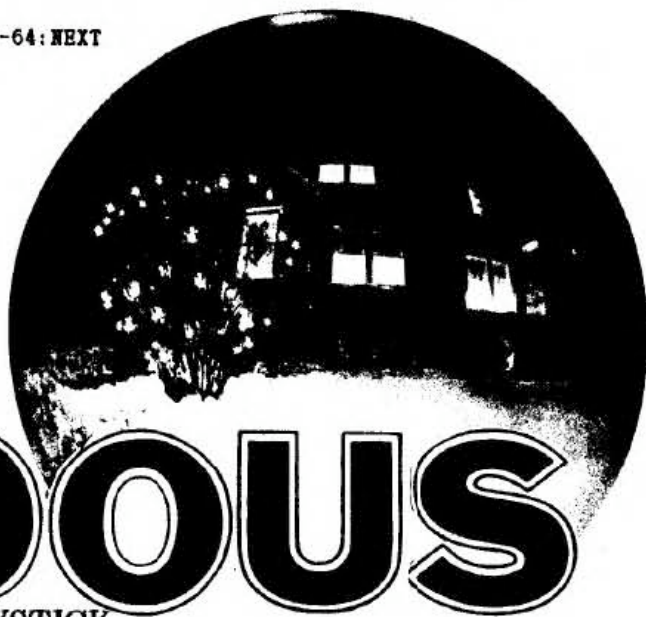
Press the "S" key to save your picture.

The cursor movement is faster when moving to the right and when moving down. For fine alignment of your decoration the cursor moves slower to the left and when moving up.

The Listing:

```
0 GOTO10
3 SAVE"61:3":END'2
10 REM XMAS TREE DECORATOR
20 REM BY TOM LEHANE 1987
30 REM -----
40 GOTO 1640
50 FOR X=G TO H
60 POKE X,PEEK(X)-64:NEXT
70 RETURN
80 CLS
```

```
90 PRINT@38,"XMAS TREE DECORATOR
"
100 G=1057:H=1086:GOSUB 50
110 PRINT
120 PRINT" DECORATE THE XMAS TRE
E USING"
130 PRINT" THE RIGHT JOYSTICK AN
D FIRE"
140 PRINT" BUTTON TO PLACE ITEMS
ON TO"
150 PRINT" THE TREE."
160 PRINT" enter (H) FOR HELP SC
REEN"
170 PRINT" enter (S) TO SAVE PIC
TURE"
180 PRINT
190 PRINT TAB(3)"NEED INSTRUCTIO
NS (Y= YES)"
200 G=1345:H=1374:GOSUB 50
210 PRINT@386,"BY"
220 PRINT@420,CHR$(139)+CHR$(129
)"OK"
230 PRINT@456,CHR$(132)"BHANE MC
MLXXXVII"
240 INPUTZZ$
250 IF ZZ$="Y" THEN 970
260 A(1)=1
270 PNODE4,1:PCLS5:COLOR2:SCREEN
1,1
280 XX=30:YY=20
290 D0$="R4U4L4D4"
300 D1$="L4U12R2H2UREUFDDG2R2D12
"
310 D2$="BUNFU4END6R3ND6FD4GNL3B
R4"
320 D3$="LG3LF3UE3UHERFGDF3DE3LH
3L"
330 D4$="R2E2F2R2G2F2L2G2H2L2B2H
2"
340 LINE(4,4)-(26,30),PSET,B
350 LINE(4,38)-(26,66),PSET,B
360 LINE(4,74)-(26,104),PSET,B
370 LINE(4,112)-(26,142),PSET,B
380 DRAW"S4BM12,55;" +D2$
390 DRAW"BM16,24;" +D1$
```



TREE MENDOUS

by
Tom Lehane

16k ECB + JOYSTICK
EDUCATION


```

400 DRAW"BM13,88;" + D3$
410 DRAW"BM11,124;" + D4$
420 DRAW"BM128,24;G25R13G29R13G3
2R13G38"
430 DRAW"BM128,24;F25L13F29L13F3
2L13F38"
440 LINE(126,144)-(43,149),PSET
450 LINE(126,144)-(213,149),PSET
460 LINE(117,146)-(117,155),PSET
470 LINE(135,146)-(135,155),PSET
480 LINE(98,156)-(156,156),PSET
490 LINE(104,170)-(152,170),PSET
500 LINE(99,156)-(104,170),PSET
510 LINE(155,156)-(152,170),PSET
520 POKB178,185
530 PAINT(123,164),,0
540 C$=D0$
550 PMODE4,5:COLOR2:SCREEN1,1
560 X=JOYSTK(0)
570 Y=JOYSTK(1)
580 I$=INKEY$
590 IF I$=CHR$(32) THEN C$=D0$:C
D=D0:XX=30:YY=20
600 IF I$="1" THEN XI=30:YY=20
610 IF I$="2" THEN XI=30:YY=52
620 IF I$="3" THEN XI=30:YY=90
630 IF I$="4" THEN XI=30:YY=128
640 IF I$="H" THEN 970
650 IF I$="S" THEN 1150
660 BP=PEEK(65280)
670 IF CD=0 THEN 720
680 IF BP=126 OR BP=254 AND CD=1
THEN 870
690 IF BP=126 OR BP=254 AND CD=2
THEN 870
700 IF BP=126 OR BP=254 AND CD=3
THEN 870
710 IF BP=126 OR BP=254 AND CD=4
THEN 870
720 IF BP=126 OR BP=254 THEN 910
730 IF X=0 THEN XX=XX-1
740 IF XX<=6 THEN XX=XI+1
750 IF YY<=6 THEN YY=YY+1
760 IF X=63 THEN XX=XX+4
770 IF XX>253 THEN XX=253
780 IF Y=0 THEN YY=YY-1
790 IF YY>184 THEN YY=184
800 IF Y=63 THEN YY=YY+4
810 FOR PC=1 TO 4
820 PCOPY PC TO PC+4
830 NEXT PC
840 DRAW"BM"+STR$(XX)+"",+STR$(Y
Y)
850 DRAWC$
860 GOTO 560
870 PMODE4,1:COLOR2:SCREEN1,1
880 DRAW"BM"+STR$(XX)+"",+STR$(Y
Y):DRAWC$
890 GOTO 550
900 REM check for decoration
910 IFXX=6 AND XX<=26 AND YY>=5
AND YY<=29 THEN C$=D1$:CD=1:SO
UND200,5:GOTO840
920 IF XX=6 AND XX<=26 AND YY>=
44 AND YY<=66 THEN C$=D2$:CD=2:SO
UND200,5:GOTO840
930 IFXX=6 ANDXX<=26 AND YY>=80
AND YY<=102 THEN C$=D3$:CD=3:SO
UND200,5:GOTO840
940 IFXX=6ANDXX<=26 AND YY>=112
AND YY<=139 THEN C$=D4$:C=4:SO

```

```

ND200,5:GOTO840
950 GOTO 550
960 REM help screen
970 CLS
980 PRINT TAB(10)"HELP SCREEN"
990 PRINT TAB(10)"-----"
1000 PRINT"USE NUMBER KEYS 1-2-3
-4 TO MOVE"
1010 PRINT"CURSOR QUICKLY TO DEC
ORATION BOX";
1020 PRINT TAB(10)"-----"
1030 PRINT"USE RIGHT JOYSTICK TO
MOVE INTO"
1040 PRINT"CHOOSE DECORATION BO
X AND PRESS";
1050 PRINT"FIRE BUTTON. MOVE TO
TREE AND"
1060 PRINT"PRESS FIRE BUTTON TO
DECORATE"
1070 PRINT"YOUR XMAS TREE."
1080 PRINT TAB(10)"-----"
1090 PRINT"PRESS SPACEBAR TO CAN
CEL CHOOSE";
1100 PRINT"DECORATION AND HOME C
URSOR."
1110 PRINT TAB(10)"-----"
1120 PRINT"PRESS (S) KEY TO SAVE
PICTURE"
1130 PRINT"FROM GRAPHIC SCREEN -
-----";:INPUTZZ$
1140 IF A(1)=1 THEN 550 ELSE 260
1150 CLS:PRINT"save"CHR$(128)"me
nu"
1160 PRINT@169,"1)= SAVE XMAS TR
EE"
1170 PRINT TAB(9)"2)= RETURN TO
TREE"
1180 ZZ$=INKEY$:IFZZ$="" THEN 1180
1190 IF ZZ$="2" THEN 550
1200 IF ZZ$="1" THEN 1220
1210 GOTO 1150
1220 PMODE4,1:COLOR5:SCREEN1,1
1230 LINE(4,4)-(26,142),PSET,BF
1240 PRINT:INPUT"ENTER FILE NAME
";F$
1250 PRINT@160,STRING$(64,143)
1260 PRINT@166,"SAVE TO"
1270 PRINTTAB(6)"TAPE":PRINTTAB(
6)"DISK"
1280 Z$=INKEY$:IFZ$="" THEN 1280
1290 IFZ$="T" THEN D=-1:GOTO1300

```

```

1300 IF Z$="D" THEN D=1
1310 IF D=-1 THEN PRINT"PREPARE
TAPE FOR SAVE AND PRESS ENTER"
1320 IF D=1 THEN PRINT"PREPARE D
ISK FOR SAVE AND PRESS ENTER"
1330 INPUTZZ$
1340 ST=PEEK(186)*256+PEEK(187)
1350 EN=PEEK(183)*256+PEEK(184)
1360 F$=LEFT$(F$,8)
1370 IF D=1 THEN F1$=F$:F$=F$+"/
BAS"
1380 OPEN"O",#D,F$
1390 P$="1 REM XMAS TREE"+CHR$(3
2)+F$
1400 GOSUB1560
1410 P$="2 CLS:PRINTTAB(8)" + CHR$
(34)+ "PICTURE LOADER":GOSUB1560
1420 P$="3 PRINTTAB(8)" + CHR$(34)
+ "*****":GOSUB1560
1430 IF D=1 THEN 1600
1440 P$="4 PRINT:PRINT" + CHR$(34)
+ "LEAVE PLAY BUTTON DOWN ON TAPE
":GOSUB1560
1450 P$="5 PRINT" + CHR$(34) + "RECO
RDER. PICTURE LOADING...":GOSUB1
560
1460 P$="6 FOR X=1 TO 1000:NEXT"
:GOSUB1560
1470 P$="7 PMODE4,1:PCLS:SCREEN1
,1":GOSUB1560
1480 IF D=1 THEN 1620
1490 P$="8 CLOADM"+CHR$(34)+F$
1500 GOSUB1560
1510 P$="9 GOTO 9":GOSUB1560
1520 CLOSE#D
1530 IF D=-1 THEN 1580
1540 SAVEM F1$,ST,EN,0
1550 PMODE4,1:COLOR2:SCREEN1,1:G
OTO280
1560 PRINT#D,P$
1570 RETURN
1580 CSAVEM F$,ST,EN,0
1590 GOTO 1550
1600 PRINT#1,"4 PRINT" + CHR$(34) +
"BASIC GRAPHIC PICTURE LOADER"
1610 GOTO 1460
1620 PRINT#1,"8 LOADM"+CHR$(34)+
F1$
1630 GOTO 1510
1640 PCLEAR8:CLEAR500
1650 GOTO 80

```

FUN WITH STRINGS\$

by Mal McLauchlan 10k ECB
EDUCATION

STRINGS\$ IS A VERY tiny Basic program that shows one of the many things you can do with strings. At the moment, it shows the name of your favorite computer magazine, but you can try adapting it to dress up your name, etc.

The Listing:

```

1 ****FUN WITH STRINGS$*****
**BY MAL MCLAUCHLAN,11 HUNTER ST

```

```

*****BOONAH. Q.4310*****
*****DEC.'86*****
2 GOTO 10
3 SAVE"10B:3":END'2
4 **SHOULD RUN ON ANY OF THE **
*****COCO FAMILY*****
10 CLS4
20 N$="AUSTRALIAN"
30 PRINT@104,STRING$(15,N$);
40 PRINT@139,N$;
50 PRINT@168,STRING$(15,N$);
60 N$="COCO"
70 PRINT@235,STRING$(10,N$);
80 PRINT@270,N$;
90 PRINT@299,STRING$(10,N$);
100 GOTO100

```




Melody Making

by
Andrew Green

16k ECB
MUSIC

THIS IS MY ENTRY to the music competition. I am only 13 years old and this is my first computer program that I have ever written for my computer. I hope to have some more coming soon.

Complete instructions are included in the listing.

If you have one of CoCo 2's with the dashes (not the one with the verticle slashes) then delete line 110 and change all the lowercase letters to uppercase.

Also, change line 120 to read...

The Listing:

```
0 GOTO10
1 ***** "MELODY"
2 ***** ANDREW GREEN
3 SAVE"9:3":END'6
10 GOTO 110
20 *****
30 '*'
40 '*' MELODY '*'
50 '*'
60 '*' BY ANDREW GREEN '*'
70 '*'
80 *****
90 CSAVE"MELODY"
100 END
110 POKE 359,57:POKE 65314,21
120 CLS
130 PRINT@44,"Melody";
140 PRINT@104,"by Andrew Green";
150 PRINT@128,STRING$(32,140)
160 PRINT@160,"You may use this
programme to"
170 PRINT "make music using CoCo
's keyboard";
180 PRINT "You can quit by press
ing <Q>."
190 PRINT "You can use the numbe
rs 1-5 to "
200 PRINT "change the length of
each note."
210 PRINT "Use these keys:"
```

```
220 PRINT:PRINT
230 PRINT " D F H J K"
240 PRINT " X C V B N M ,
"
250 FOR I=1 TO 2
260 PLAY"T3;V15;P8L1003G04EDCC3G
"
270 PLAY"V15;L804CDEDCO3G"
280 NEXT I
290 FOR Z=1 TO 100:NEXT Z
300 PLAY"T305L10.CL8CDEDCO4B"
310 PLAY"L10AL1005EL8C"
320 PLAY"L10.CO4AB05CL2.D"
330 PLAY"L10DEFEDCL2.D"
340 FMODE 4,1:PCLS
350 DRAW"BM72,44;U25F10E10D25"
360 DRAW"BM98,44;U20R10L10D10R5L
5D10R10"
370 DRAW"BM114,44;U20D20R10"
380 DRAW"BM128,44;U20R10D20L10"
390 DRAW"BM142,44;U20R7F3D13G4L6
"
400 DRAW"BM160,44;U10H5U4D4F5E5U
4"
410 DRAW"BM74,46;U25F10E10D25"
420 DRAW"BM100,46;U20R10L10D10R5
L5D10R10"
430 DRAW"BM116,46;U20D20R10"
440 DRAW"BM130,46;U20R10D20L10"
450 DRAW"BM144,46;U20R7F3D13G4L6
"
460 DRAW"BM162,46;U10H5U4D4F5E5U
4"
470 LINE(70,48)-(164,48),PSET
480 LINE(69,50)-(165,50),PSET
490 LINE(5,80)-(245,180),PSET,BF
500 LINE(35,80)-(35,180),PRESET
510 LINE(65,80)-(65,180),PRESET
520 LINE(95,80)-(95,180),PRESET
530 LINE(125,80)-(125,180),PRESE
T
540 LINE(155,80)-(155,180),PRESE
T
550 LINE(185,80)-(185,180),PRESE
T
560 LINE(215,80)-(215,180),PRESE
T
570 LINE(26,80)-(44,130),PRESET,
BF
580 LINE(56,30)-(74,130),PRESET,
BF
590 LINE(116,80)-(134,130),PRESE
```

```
T,BF
600 LINE(146,80)-(164,130),PRESE
T,BF
610 LINE(176,8)-(194,130),PRESET
,BF
620 LINE(236,80)-(245,130),PRESE
T,BF
630 LINE(5,80)-(245,180),PSET,B
640 DRAW"BM22,165;COL5D10R5"
650 DRAW"BM47,165;COD10R4E2U6H2L
4"
660 DRAW"BM77,165;D10R5L5U5R2L2U
5R5"
670 DRAW"BM107,165;D10U5R2L2U5R5
"
680 SCREEN 1,1
690 DRAW"BM137,165;D10R5U4L2R2D4
L5U10R5D3"
700 DRAW"BM172,165;D10U10L5D10U5
R5"
710 DRAW"BM198,165;D10U10R3F2D1G
2L3R3F2D1G2L3"
720 DRAW"BM228,165;D10R5L5U10R5"
730 AS=INKEY$
740 IF AS="" THEN 730
750 PLAY"C2"
760 IF AS="X" THEN PLAY"C"
770 IF AS="D" THEN PLAY"2"
780 IF AS="C" THEN PLAY"3"
790 IF AS="V" THEN PLAY"5"
800 IF AS="F" THEN PLAY"4"
810 IF AS="B" THEN PLAY"F"
820 IF AS="N" THEN PLAY"G"
830 IF AS="M" THEN PLAY"A"
840 IF AS="," THEN PLAY"B"
850 IF AS="." THEN PLAY"O3C"
860 IF AS="H" THEN PLAY"7"
870 IF AS="J" THEN PLAY"9"
880 IF AS="K" THEN PLAY"11"
890 IF AS="1" THEN PLAY"L1"
900 IF AS="2" THEN PLAY"L2"
910 IF AS="3" THEN PLAY"L4"
920 IF AS="4" THEN PLAY"L8"
930 IF AS="5" THEN PLAY"L16"
940 IF AS="Q" THEN SCREEN 0:CLS:
END
950 GOTO 730
```

Φ

Letterhead Pictures

by
Johanna Vagg

APPLICATION
16K ECB; DMP PRINTER



EVER WANTED TO MAKE that letter you're writing look a little spiffy? If so, then 'want' no longer!

This particular program lets you choose one of the following letter head figures ...

- * Dove
- * Santa
- * Dove and Santa
- * Mr Muddle
- * Mr Daydream
- * Mr Men

... to be 'dumped' onto your printer.

Alternatively, you could re-write the program to suit your own figures.

The Listing:

```
0 GOTO5
3 SAVE"12A:3":END'6
5 'LETTERHEAD PICTURES BY
  JOHANNA VAGG OF FORBES
6 'THIS IS A RATHER SLOW (AT THE
  PRINTING STAGE) BUT EFFECTIVE
  PROGRAM
7 CLEAR3000
8 'MR DAYDREAM
9 'THIS COULD HAVE BEEN SHORTER
  BUT THEN IT WOULD HAVE TAKEN
  ME LONGER-I USED TOM LEHANE'S
  LINEMASTER TO DRAW THIS
10 PMODE4:PCLS1:SCREEN1,1
11 COLOR0,1
12 FORZ=1TO 71
13 READ A,B,C,D
14 LINE(A,B+65)-(C,D+65),PSET
15 NEXT
16 DATA 63, 61, 69, 63
17 DATA 69, 63, 73, 61
18 DATA 73, 61, 75, 58
```

```
19 DATA 75, 58, 74, 54
20 DATA 74, 54, 80, 53
21 DATA 80, 53, 84, 50
22 DATA 84, 50, 84, 43
23 DATA 84, 43, 81, 38
24 DATA 81, 38, 75, 38
25 DATA 76, 39, 74, 33
26 DATA 74, 33, 68, 31
27 DATA 68, 31, 64, 32
28 DATA 64, 32, 58, 26
29 DATA 58, 26, 54, 26
30 DATA 54, 26, 49, 29
31 DATA 49, 29, 47, 33
32 DATA 47, 33, 41, 28
33 DATA 41, 28, 36, 27
34 DATA 36, 27, 33, 29
35 DATA 33, 29, 32, 32
36 DATA 32, 32, 32, 37
37 DATA 34, 37, 25, 37
38 DATA 25, 37, 21, 40
39 DATA 21, 40, 20, 46
40 DATA 20, 46, 22, 51
41 DATA 22, 51, 28, 53
42 DATA 30, 52, 26, 56
43 DATA 26, 56, 25, 61
44 DATA 25, 61, 31, 66
45 DATA 31, 66, 37, 66
46 DATA 37, 66, 44, 66
47 DATA 45, 65, 41, 69
48 DATA 41, 69, 37, 71
49 DATA 37, 71, 42, 78
50 DATA 42, 78, 46, 81
51 DATA 46, 81, 50, 79
52 DATA 50, 79, 50, 76
53 DATA 50, 76, 46, 72
54 DATA 45, 73, 49, 70
55 DATA 49, 70, 51, 66
56 DATA 51, 66, 54, 72
57 DATA 54, 72, 54, 78
58 DATA 54, 78, 60, 77
59 DATA 60, 77, 63, 74
60 DATA 63, 74, 63, 70
61 DATA 63, 70, 60, 69
62 DATA 60, 69, 58, 71
63 DATA 58, 71, 56, 65
64 DATA 56, 65, 60, 64
```

```
65 DATA 60, 64, 62, 60
66 DATA 67, 41, 63, 50
67 DATA 63, 50, 56, 53
68 DATA 56, 53, 47, 51
69 DATA 47, 51, 42, 47
70 DATA 42, 47, 41, 42
71 DATA 37, 52, 37, 56
72 DATA 37, 56, 41, 58
73 DATA 41, 58, 41, 61
74 DATA 41, 61, 38, 61
75 DATA 38, 61, 39, 65
76 DATA 39, 65, 36, 64
77 DATA 34, 64, 34, 60
78 DATA 34, 60, 34, 63
79 DATA 34, 63, 31, 63
80 DATA 29, 63, 28, 59
81 DATA 28, 59, 32, 58
82 DATA 32, 58, 32, 54
83 DATA 52, 38, 52, 39
84 DATA 53, 40, 53, 37
85 DATA 58, 37, 58, 39
86 DATA 59, 39, 59, 36
87 'MR MUDDLE - SAME STORY AS
  FOR MR DAYDREAM
88 X=80
89 FORZ=1TO 42
90 READ A,B,C,D
91 LINE(A+X,B+70)-(C+X,D+70),PSE
  T
92 NEXT
93 DATA 54, 28, 49, 30
94 DATA 49, 30, 38, 31
95 DATA 38, 31, 26, 29
96 DATA 26, 29, 19, 25
97 DATA 25, 27, 26, 17
98 DATA 26, 17, 31, 13
99 DATA 31, 13, 39, 13
100 DATA 39, 13, 48, 17
101 DATA 48, 17, 49, 28
102 DATA 49, 30, 47, 62
103 DATA 47, 62, 44, 66
104 DATA 44, 66, 39, 67
105 DATA 39, 67, 39, 71
106 DATA 39, 71, 43, 71
107 DATA 43, 71, 43, 75
108 DATA 42, 75, 40, 77
```





```

109 DATA 40, 77, 36, 77
110 DATA 36, 77, 35, 68
111 DATA 35, 68, 32, 69
112 DATA 32, 69, 34, 73
113 DATA 34, 73, 31, 77
114 DATA 31, 77, 27, 73
115 DATA 27, 73, 25, 68
116 DATA 25, 68, 28, 67
117 DATA 28, 67, 23, 63
118 DATA 23, 63, 25, 30
119 DATA 28, 32, 28, 35
120 DATA 27, 35, 27, 33
121 DATA 24, 45, 30, 45
122 DATA 30, 45, 33, 42
123 DATA 33, 42, 34, 37
124 DATA 39, 43, 37, 47
125 DATA 37, 47, 34, 47
126 DATA 34, 47, 32, 49
127 DATA 32, 49, 36, 50
128 DATA 36, 50, 32, 53
129 DATA 32, 53, 34, 54
130 DATA 34, 54, 37, 52
131 DATA 35, 54, 36, 56
132 DATA 36, 56, 41, 54
133 DATA 43, 52, 42, 50
134 DATA 42, 50, 43, 45
135 'SANTA BY JOSEPH KOLAR
    DECEMBER 1983 RAINBOW
    SEE HOW SHORT IT CAN BE?
136 DRAW "COS8C2BM125,20U2RU2E4R
5F2NRL3G4NDU3NEG2LDLFDL2 BR5BURE
NR2NFE2R4NU2NDF3D4G3LLDHL3M-3,-2
U3M+1,-2 BFDENE2RNR4FR2ENNE2EUBL2
NUL3EBUNLBRNFR2EUBHGH"
137 DRAW "BD8BL5G3D3ND2R3NU2NF4D
2L2NLDGDRNRURNURUHUF4R4NU2R2NU
2RE5NFG4NH3L7R7E4 NU3E2NU2RERUN
LUNLE2UL3G2LGL2NF2H2L"
138 'DOVE - KOLAR AGAIN
139 DRAW "COS8BM6,6R2M+2,+1UM+2,
+1UM+2,+1NM+3,+4U2FE M+5,+8R3M+5
,+1NM+7,+1HNR4U2NR4M-1,-2NR4M-1,
-2NR4EM-2,-1 R3M+9,+4M+2,+1D2G3
R3DF3BU4BL3E3R2F2DF2L2 DM-2,+3G3
M-4,+2M-4,+1"
140 DRAW "L3FLHL2FLHM+2,-1M+4,-1
M+2,-1U2M-2,-1 BG6 M-5,-2M-5,-2M
-5,-2M-5,-4 M+2,-1NF4M+3,-1NF4R2
ENF4R3M+4,+3M+3,+2 BU5BL7H2M-4,-
3M-6,-4"
141 DRAW "BM90,29M-1,+4EUERDGLGM
-1,+4RUERDGL2M-4,+5"
142 DRAW "BM90,29UHUEFDGDEU2EUER
DGLGU3HUEFDG"
143 DRAW "BM82,23DL"
144 FOR T=1 TO 800: NEXT

```

```

145 CLS:PRINT"THE BIGGER THE PIC
TURE, THE SLOWER
THE PRINTING":PRINT:PRINT:PRINT
"1 DOVE":PRINT"2 SANTA"
146 PRINT"3 DOVE AND SANTA (SL
OWEST)":PRINT"4 MR DAYDREAM":PR
INT"5 MR MUDDLE (FASTEST)":PR
INT"6 MR MEN!"
147 IS=INKEY$:IF IS=""THEN147
148 '(L1,D1)-(L2,D2) IMAGINARY
BOX AROUND PICTURE IE THE SCREEN
AREA FOR PRINTING PROGRAM TO
"READ AND TRANSLATE"
149 'RR IS NUMBER OF REPEATS
150 IFIS="1" THEN L1=0:L2=118:D1
=2:D2=51:RR=4
151 IF IS="2"THEN L1=122:L2=188:
D1=3:D2=52:RR=7
152 IF IS="4" THEN L1=10:L2=98:D
1=89:D2=146:RR=5
153 IF IS="5" THEN L1=90:L2=147:
D1=80:D2=149:RR=8
154 IF IS="3" THEN L1=0:L2=220:D
1=0:D2=53:RR=2
155 IF IS="6"THEN L1=10:L2=160:D
1=80:D2=149:RR=3
156 PMODE4:SCREEN1,1
157 DIMPR$(150)
158 REM FOR DMP110 AND OTHER
PRINTERS WITH 120 DOT COLUMNS
PER INCH, LEAVE PROGRAM AS IS.
159 PRINT#-2,CHR$(27)CHR$(14):'
ELONGATE ON. TAKE THIS OUT FOR
60 DOT COLUMN PER INCH PRINTERS
EG TRP100. ALSO TAKE ELONGATE
OUT FOR 80 DOT COLUMN PER INCH
PRINTERS
160 'ADJUST NUMBER OF REPEATS TO
SUIT 80 DOT COLUMN PER INCH
PRINTERS. (NO ADJUSTMENT OF
REPEATS REQUIRED FOR 60)
161 GN$=CHR$(18)' GRAPHICS ON
162 FOR Y1=D1 TO D2 STEP7
163 FOR X1=L1 TO L2
164 FOR Y2=0 TO 6
165 IF PPOINT(X1,Y1+Y2)=0, THEN N
B=NB+INT(2*Y2)
166 NEXT Y2
167 PR$(Y1)=PR$(Y1)+CHR$(NB+128)
:NB=0
168 NEXT X1:PRINT#-2,GN$:
169 FORR=1TORR:PRINT#-2,PR$(Y1):
:NEXT
170 PRINT#-2:NEXT Y1
171 PRINT#-2,CHR$(27)CHR$(15)'EL
ONGATE OFF

```

```

172 PRINT#-2,CHR$(12)'ADVANCE TO
TOP OF NEXT PAGE
173 PRINT#-2,CHR$(30)'GRAPHICS
OFF
174 RUN145:REM THIS LINE SHOULD
RUN THE MENU.. IF IT HAS BEEN
RENUMBERED, CHANGE IT TO RUN THE
MENU.. GOTO IS NOT SUITABLE!

```

⊕



1 NOW YOU SEE IT

THIS PROGRAM is based on a popular I.V. show. It does not follow the exact format in that the user is competing against himself instead of one opponent. Also, there are only two parts to be completed instead of three.

The words in the DATA statements are from my spelling list for Year 5. The meanings are from the dictionary which we use in class.

Feel free to change the DATA statements if you wish. The DATA is really in three sections. First comes a "line" of letters. Next comes the three words which make up this "line" followed by the meaning of each word. The value of DA in line 10 is equal to the number of "line" DATA statements and thus one-third of the words and meanings.

An example of a "line" would be "BOOMERANGELABEL" which is made up of the words "BOOMERANG", "ANGEL" and "LABEL".

At first you might think it an awesome task to make up these "lines" from 515 words, but it was done the easy way by writing a short program for the computer to do it.

Firstly, I loaded in a program which had my words in it. I deleted everything up to the DATA statements which contained the words. Next, lines were added to sort the words into alphabetical order and save them out to disk as a program which could be re-loaded into the computer. (LISTING 1 called "sortword").

If you wish to do this to your words follow the first and second steps above. RENUMBER the lines if necessary. Type in to line 260 altering the 515 in the DIM statement in line 20, the value of A in line 20 and the 515 in line 210 to suit the number of words in your program.

You may also wish to change the "#1" in lines 200, 230, 240 and 250 to "#-1" to save the generated program to tape. If you save these to cassette it should load straight back in.

On my disk system, I typed in `RENAME WORDDATA/DAT` TO `WORDDATA/BAS`. After the "OK" prompt reappeared, the program was then loaded into the computer and the lines RENUMBER-ed.

LISTING 2 (called MAKELINE) was then typed in and run. Viola - lots of lines being sent to the printer. If you do not have a printer, then alter "PRINT#-2" of LISTING 2 in lines 200 and 240 to "PRINT" and then write each generated "line" down on paper.

These "lines" which the computer generates are the ones to substitute for mine.

Whichever way you go about it - using your own words or using the words in the program - I am sure you will find this a useful addition to your spelling based programs.

If you wish to have more than 6 turns in each part of "NOW YOU SEE IT", just alter the "IF N=6" in lines 850 and 1170 to the number of turns you would like.

I originally had this set to 12 instead of 6 but found that the class was taking anything up to an hour each person to get through it.

Of course, if you are using this at home, then time is not so important, but with only one computer in a class situation you have to compromise.

by
Bob Horne
EDUCATION
32K COCO

words and 12 meanings is the absolute minimum number of data statements you can have to run the program.)

If you have some really clever people in your class, then let them try the program using all the words instead of just 12.

Being realistic, however, I have found it necessary to restrict it to the 4 "lines" and 12 words.

Listing One:

```
0 REM*****
1 REM*      LISTING1
2 REM*      SORTWORD
3 REM*      SORT WORDS INTO
4 REM*      ALPHABETICAL ORDER
5 REM*      AND SAVE TO DISK
6 REM*****
7 GOTO10
```




```

10 CLS:PRINT"NOW READING WORDS."
: CLEAR3000
20 DIMW$(515):FORX=1TO515:READW$
(X):NEXTX:A=515
30 PRINT"NOW SORTING WORDS."
40 POKE65495,0
50 D=1
60 D=D*2
70 IF D<A THEN60
80 D=INT((D-1)/2)
90 IF D=0 THEN190
100 FORI=1TO A-D
110 FORJ=1TOI STEP-1
120 L=J+D
130 IF W$(J)<W$(L) THEN J=1:NEX
TJ:GOTO170
140 T$=W$(J):W$(J)=W$(L):W$(L)=T
$:GOTO160
150 IF W$(J)=W$(L) THEN J=1:NEX
TJ:GOTO170
160 NEXTJ
170 NEXTI

```

```

180 GOTO80
190 POKE65494,0:INPUT"PRESS <ENT
ER> WHEN READY TO SAVEWORDS ->":
IN$
200 OPEN"O",#1,"WORDDATA":X=1400
210 FORY=1TO515
220 A$=A$+W$(Y)
230 IF LEN(A$)>150 THENA$=STR$(
X)+" DATA "+A$:PRINT#1,A$:A$="":
X=X+10 ELSE A$=A$+" "
240 NEXTY:X=X+10:A$=LEFT$(A$,LEN
(A$)-1):A$=STR$(X)+" DATA "+A$:P
RINT#1,A$
250 CLOSE#1
260 END
270 REM*****INSERT*****
280 REM*****YOUR*****
290 REM*****WORDS*****
300 REM*****HERE*****

```

Listing Two:

```

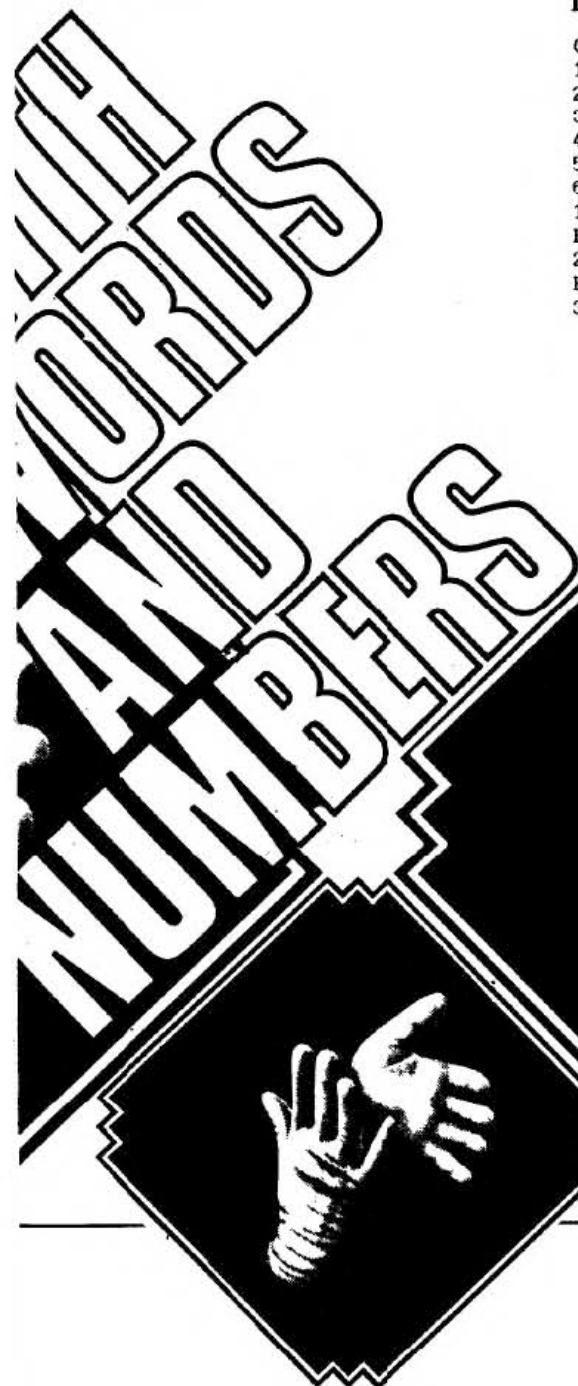
0 REM*****
1 REM* LISTING2 *
2 REM* MAKELINE *
3 REM* CREATE A LINE OF WORDS *
4 REM*****
5 GOTO10
6 SAVE"309CB:3":END'2
10 CLS:PRINT@261,"JUST A MOMENT
PLEASE.":CLEAR3000
20 DA=515:DIMW$(DA),C(DA),B(26):
FORX=1TO DA:READW$(X):NEXTX
30 FORX=1TO DA

```

```

40 A$=LEFT$(W$(X),1):A=ASC(A$)-6
4
50 B(A)=B(A)+1:NEXTX
60 CLS
70 X=RND(-TIMER)
80 E=0:X=RND(DA):L$=W$(X):IF LEN
(L$)=3 THEN80
90 IF C(X)=1 THEN80 ELSEC(X)=1:D
=X
100 Y=4
110 P$=RIGHT$(L$,Y):P1$=LEFT$(P$
,1)
120 Z=ASC(P1$)-64
130 A=0:FORX=1TO Z-1:A=A+B(X):NE
XTX:A=A+1:B=A+B(Z)-1
140 FORW=A TO B
150 IF C(W)=1 THEN230
160 IF P$=LEFT$(W$(W),Y) THENPRI
NTL$;"",W$(W) ELSE230
170 INPUT"D.KAY":Q$:IF Q$<>"Y" T
HEN230
180 E=E+1:D(E)=W:C(W)=1:L1$=W$(W
):L1$=L$+MID$(L1$,Y+1,LEN(L1$)):
PRINTL1$:PRINT"THIS IS NOW "LEN(
L1$)" CHARACTERS LONG":PRINT"ADD
TO IT OR START A NEW WORD ":INP
UT"<A>DD TO <S>TART A NEW ONE":Q
$
190 IF Q$="A" THEN220
200 PRINT#-2,L1$:CLS:L1$="":V=B:
NEXTV:IF E=0 OR E=1 THEN C(D(1))
=0:C(D(2))=0:C(D)=0
210 GOTO80
220 Y=4:P$=RIGHT$(L1$,Y):P1$=LEF

```




```

550 NEXTZ1:PRINT@448,"PRESS <ENT
ER> TO START THE GAME.":IN$=INKE
Y$
560 IF INKEY$(<>CHR$(13)) THEN560
569 REM*****FIRST SECTION*****
570 L=23:FL=0:PMODE3,1:PCLS:SCRE
EN1,1:DRAW"S8":X1=50:Y1=100:C1=7
:W$="THE LINE GAME":GOSUB170:PLA
YP3$:PCLS:PCOPY5TO1:DRAW"C7":LIN
E(0,97)-(255,142),PSET,B:DRAW"C8
":LINE(0,160)-(255,191),PSET,B:P
LAY"L255T255O4"
580 X=RND(D2)+D1:IF A(X)=1 THEN5
80 ELSE A(X)=1
590 I=I+1:IF B=2 THEN610
600 IF I=4 THEN I=0:FORZ=D1+1 TO
D1+4:A(Z)=0:NEXTZ:GOTO620 ELSE6
20
610 IF I=DA-3 THEN FORZ=1TO DA:A
(Z)=0:NEXTZ:I=0
620 L1=LEN(A$(X))*11:L1=INT((256
-L1)/2+3.5)
630 F=L1:FORZ=1TO LEN(A$(X)):PO(
Z)=F:C$=MID$(A$(X),Z,1):IF C$="M
" OR C$="W" THEN F=F+12 ELSE F=F
+11
640 NEXTZ
650 Y2=12:X1=3:Y1=110:C1=6
660 IF QU=0 THEN J$=B$(X):K$=E$(
X) ELSE IF QU=1 THEN J$=C$(X):K$
=F$(X) ELSE J$=D$(X):K$=G$(X)
670 IF RIGHT$(K$,1)<>". THEN K$
=K$+"."
680 C$=K$:GOSUB130:X1=3:Y1=173:C
1=7:C$="PRESS ENTER WHEN YOU KNO
W THE WORD.":GOSUB130
690 P=INSTR(A$(X),J$):Z2=0
700 P1=PO(P)-2:L1=P
710 IF P=L1+LEN(J$) THEN790
720 Y2=0:X1=PO(P):Y1=75:C1=8:W$=
MID$(A$(X),P,1):GOSUB170
730 IN$=INKEY$
740 IN$=INKEY$:IF IN$="" GOSUB23
0
750 IF IN$=CHR$(13) THEN780
760 ZZ=ZZ+1:IF ZZ=40 THENZZ=0:P=
P+1:C1=8:GOTO710
770 GOTO740
780 GOSUB250:GOSUB260:GOTO820

789 REM*****WORD ON SCREEN*****
790 GOSUB250:Y2=12:X1=3:Y1=173:C
1=7:C$="SORRY. THE WORD IS ALREA
DY ON THE SCREEN.":GOSUB130
800 F=L1+LEN(J$)-1:GET(P1,64)-(P
O(F)+10,76),LE,G:PUT(P1,64)-(PO(
F)+10,76),LE,PSET:FORZ=1TO1000
:NEXTZ:PUT(P1,64)-(PO(F)+10,76),
LE,PSET
810 GOSUB240:GOSUB250:QU=QU+1:GO
TO850
819 REM*****TEST ANSWER*****
820 QU=QU+1:IF AN$(<>J$) GOSUB250:
Y2=12:X1=3:Y1=173:C1=7:C$="SORRY
. THE CORRECT WORD IS "+J$+"":G
OSUB130:FORZ=1TO500:NEXTZ:VA=1
830 X1=P1+2:Y1=75:C1=8:W$=J$:GOS
UB170:X4=L1+LEN(J$)-1:X4=PO(X4)+
10:GET(P1,64)-(X4+2,76),LE,G:PUT
(P1,64)-(X4+2,76),LE,PSET:IF V
A=1 THEN840 ELSEPCOPY7TO3:X1=140
:Y1=124:C1=7:W$=RND(4):GOSU
B170

```

```

840 FORZ=1TO1000:NEXTZ:PUT(P1,64
)-(X4+2,76),LE,PSET:IF VA=0 THEN
N=N+1
850 VA=0:IF N=6 THENN=0:GOTO870
ELSEGOSUB240:GOSUB250
860 IF QU=3 THEN QU=0:LINE(0,64)
-(255,76),PSET,BF:GOTO580 ELSE
650
869 REM*****SECOND SECTION*****
870 IF B=1 THEN FORZ=D1+1 TO D1+
4:A(Z)=0:NEXTZ
880 PCOPY7TO8:PCLS:X1=0:Y1=120:C
1=7:DRAW"S20":C$="THE BIG BOARD"
:FORZ1=1TO LEN(C$):W$=MID$(C$,Z1
,1):GOSUB170:X1=X1+20:NEXTZ1:PLA
YP3$:PCLS:PCOPY5TO1:PLAY"L255T25
5O4"
890 DRAW"S8C8":LINE(0,48)-(10,10
8),PSET,BF:Y2=15:X1=3:Y1=61:C1=5
:C$="1234":FORZ1=1TO4:W$=MID$(C$
,Z1,1):GOSUB170:NEXTZ1:DRAW"C6"
:FORZ=48TO93STEP15:LINE(12,Z)-(25
5,Z+15),PSET,B:NEXTZ
900 X1=20:Y1=61:C1=8:FORZ1=1TO4
910 X(Z1)=RND(D2)+D1:IF A(X(Z1))
=1 THEN910 ELSE A(X(Z1))=1
920 W$=A$(X(Z1)):GOSUB170:NEXTZ1
:PCOPY2TO6:PCOPY3TO7
930 VL=RND(4):X=X(VL)
940 F=RND(3):IF T((VL-1)*3+F)=1
THEN930 ELSE T((VL-1)*3+F)=1
950 IF F=1 THEN J$=B$(X):K$=E$(X
) ELSE IF F=2 THEN J$=C$(X):K$=F
$(X) ELSE J$=D$(X):K$=G$(X)
960 F=20:FORZ=1TO LEN(A$(X)):PO(
Z)=F:C$=MID$(A$(X),Z,1):IF C$="M
" OR C$="W" THEN F=F+12 ELSE F=F
+11
970 NEXTZ
980 DRAW"C7":LINE(0,118)-(255,15
8),PSET,B:IF RIGHT$(K$,1)<>". T
HEN K$=K$+"."
990 Y2=12:X1=4:Y1=130:C1=6:C$=K$
:GOSUB130:DRAW"C8":LINE(0,160)-(
255,191),PSET,B:Y2=0:Y1=173:C1=7
:W$="WHICH LINE (1-4)?":GOSUB170
1000 IN$=INKEY$
1010 IN$=INKEY$:IF IN$="" THEN G
OSUB230:GOTO1010
1020 IF VAL(IN$)<1 OR VAL(IN$)>4

```

```

THEN1000
1030 X1=200:W$=IN$:GOSUB170:IF V
AL(IN$)=VL THEN1050
1040 GOSUB250:Y2=12:X1=3:Y1=173:
C1=6:C$="SORRY. LINE "+IN$+" IS
NOT CORRECT. TRY AGAIN.":GOSUB13
0:FORZ=1TO1000:NEXTZ:GOSUB250:GO
TO990
1050 GOSUB250:X1=100:Y1=173:W$="
RIGHT!":GOSUB170
1060 VA=0:IF VL=1 THEN LINE(0,64
)-(255,108),PSET,BF:Y5=63:GOTO
1090 ELSE IF VL=4 THEN LINE(0,48
)-(255,92),PSET,BF:Y5=107:GOTO
10901070 IF VL=2 THEN Y3=62:Y4=7
9:Y5=77:ELSE IF VL=3 THEN Y3=77
:Y4=94:Y5=92
1080 LINE(0,48)-(255,Y3),PSET,
BF:LINE(0,Y4)-(255,108),PSET,B
F
1090 GOSUB250:GOSUB260
1100 IF AN$=J$ THEN1150
1109 REM*****ANSWER IS WRONG*****
1110 GOSUB1140:WA=WA+1:IF WA<3
THEN1130 ELSEP=INSTR(A$(X),J$):F
=PO(P+LEN(J$)-1)+10:GET(PO(P)-2,
Y5-13)-(F,Y5),LE,G:PUT(PO(P)-2,Y
5-13)-(F,Y5),LE,PSET
1120 FORZ=1TO1000:NEXTZ:PUT(PO(P
)-2,Y5-13)-(F,Y5),LE,PSET:WA=0
1130 GOTO1090
1140 GOSUB250:Y2=12:X1=3:Y1=173:
C1=6:C$="SORRY. TRY THAT AGAIN P
LEASE.":GOSUB130:FORZ=1TO1000:NE
XTZ:RETURN
1149 REM*****ANSWER IS RIGHT*****
1150 LINE(0,118)-(255,143),PRESE
T,BF:PCOPY8TO4:X1=140:Y1=170:C1=
7:W$=RND(4):GOSUB170
1160 P=INSTR(A$(X),J$):F=PO(P+LE
N(J$)-1)+10:GET(PO(P)-2,Y5-13)-(
F,Y5),LE,G:PUT(PO(P)-2,Y5-13)-(F
,Y5),LE,PSET
1170 N=N+1:FORZ=1TO1000:NEXTZ:PU
T(PO(P)-2,Y5-13)-(F,Y5),LE,PSET:
IF N=6 THEN1180 ELSE LINE(0,144)
-(255,191),PSET,BF:PCOPY6TO2:P
COPY7TO3:GOTO930
1179 REM*****GET NEXT USER*****
1180 PCLS:PCOPY5TO1:X1=0:Y1=101:
Y2=14:C1=8:C$="NEXT PLAYER. PRES
S <ENTER>":GOSUB130:IN$=INKEY$
1190 IN$=INKEY$:IF IN$="" THEN G
OSUB230:GOTO1190
1200 IF IN$(<>CHR$(13)) THEN1190
1210 FORZ=1TO DA:A(Z)=0:NEXTZ:FO
RZ=1TO12:T(Z)=0:NEXTZ:PCLS:PCOPY
8TO7:N=0:QU=0:I=0:IF B=1 THEN440
ELSE500
1219 REM*****CHARACTER DATA*****
1220 DATABR2,BR2UBU2U2BRBD5,BU5N
DBR3DBD4,BRUNLU3NLNURNURD3NLNRD
BR,BRUNLREHL2URNUR2BD4,BR3NUBL3U
E3UBL3DBD4BR3,BRHNFB2HEFGBD2REBD
,BU5BRRDGBD3BR2,BR2HU3EBRBD5,BRE
U3HBD5BR2,BRBU3BD3NH3BDBR,BU3BR
2DNLNRDDBR
1230 DATABRUNRDRNUDBGU2BR2,BRBU2
R2BD2,BRRULDBR2,BUBRRBU2NL3NR2BU
2LBD5BR3,BRU3ERFD3GLBR2,R2U5WLD
5R
1240 DATA NR3VEREV2LLGBD4BR3,BUF

```



REUHNLEUL3BD5BR3, BR3U5D3L3UE2RBD
5, BUFRUHL2U2R3BD5, BUNUFREUHLGU2
ERBD5BR, BU4UR3D2G3BR3, BUNUFREUHL
NGHERFGD3BR, BRREU3HLGDFREBD3, BR
2UBU2UBD4BR

1250 DATA BR2URD2GBU5URDLBD3BR, BR
2H2UE2BD5BR, BRBUNR2BU2R2BD3, BRE2
UH2BD5BR2, BR2UBUUREHL2BD5BR3, , U2
NR3U2ERFD4

1260 DATA U3NR2U2R2FGFDGL2BR3, BU
U3ERFBD3GLHBD3BR3, U5RF2DG2LBR3, NR
3U3NR2U2R3BD5, U3NR2U2R3BD5, BUU3E
RBRBD3NLDGLHBD3BR3, U3NU2R3NU2D3, B
RU5BD5BR, BUFEU4NRL2BD5BR3, U5D2RE
2G2FD2, NU5R3, U5F2E2D5, U5F3U3D5

1270 DATA BRHU3ERFD3GLBR2, U5R2FDG
L2BD2BR3, BUU3ERFD3NHNFGHLHBD3BR3, U
5R2FGL2F3, BUFRUHL2U2ERFD4

1280 DATA BRU5LR3BD5, NU5R3U5BD5,
BU5D3FBRUEU3BD5, NU5E2F2NU5, UE2H2
BR3DGF2D, BU5D2FRD2NU2EU2BD5, NR3
UE3UL3BD5BR3

1289 REM**LINE, WORDS, MEANINGS**
1290 DATACARTOONIECEILING, CARTOO
N, NIECE, CEILING

1300 DATAA KIND OF COMIC DRAWING
, A BROTHER'S OR SISTER'S DAUGHTER,
THE INSIDE ROOF OF A ROOM

1310 DATAGUINEABRIDGENERAL, GUINE
A, ABRIDGE, GENERAL

1320 DATAAN OLD ENGLISH GOLD COI
N AT ONE TIME WORTH \$2.10, TO SHO
RTEN, A HIGH RANKING ARMY OFFICER
1330 DATAGARMENTA INCREASE, GAR
MENT, ENTERTAIN, INCREASE

1340 DATAA PIECE OF CLOTHING, REC
EIVE AS GUEST; AMUSE, TO BECOME G
REATER

1350 DATAAPPLAUSESELECTTOUGH, APPLAU
SE, SELECT, TOUGH

1360 DATAHANDCLAPPING, TO PICK; T
O CHOOSE, HARD TO BREAK OR CUT

1370 DATAENJOYMENTIREDAILY, ENJOY
MENT, TIRED, DAILY

1380 DATAPLEASURE, WEARY, DONE EVE
RY DAY

1390 DATAPOUNCENCOURAGEENGINE, POU
NCE, ENCOURAGE, ENGINE

1400 DATATO SPRING UPON SUDDENLY
, TO HEARTEN; TO CHEER, A COMPLEX
MACHINE; A MOTOR

1410 DATAFAITHFULLEATHERO, FAITHFU
L, LEATHER, HERO

1420 DATALOYAL, TANNED SKIN OF AN
ANIMAL, "CHIEF MAN IN A STORY, PO
EM ETC."

1430 DATAFRINGENIUSALOON, FRINGE,
GENIUS, SALOON

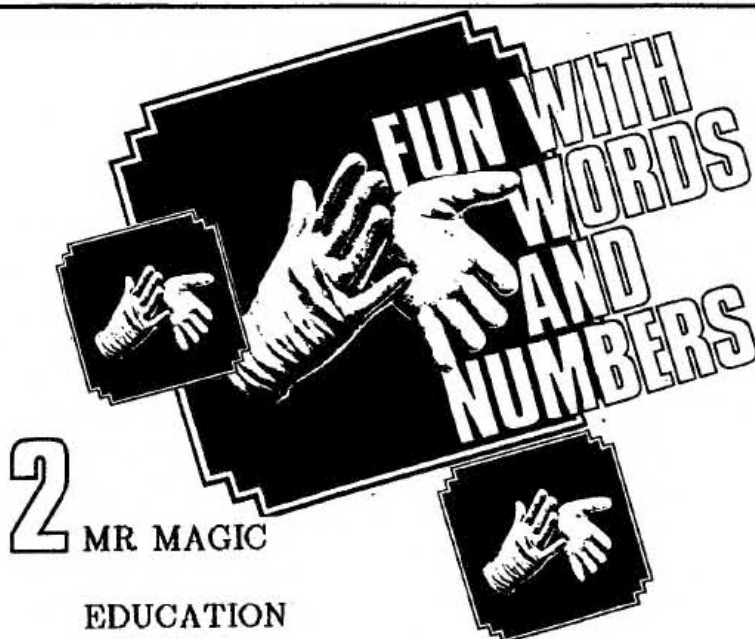
1440 DATAA BORDER OF THREADS ETC
, A VERY CLEVER PERSON, A PUBLIC
ROOM FOR BILLIARDS ETC.

1450 DATALOITERADIOBJECT, LOITER,
RADIO, OBJECT

1460 DATA"TO WASTE TIME, HANG AB
OUT", WIRELESS, AN END OR AIM

1470 DATAPLUNGENTLEMANAGE, PLUNGE
, GENTLEMAN, MANAGE

1480 DATATO DIVE, A WELL-BRED MAN
, "TO CARRY ON, TO CONDUCT AFFAIR
S"



2 MR MAGIC

EDUCATION
16K ECB

By Mathew and Tom Lehane

MR MAGIC IS PROGRAMMED from an old magician's stage trick. The idea for this stage trick was to ask for a volunteer from the audience and have him or her choose a number between 1 and 63.

The magician would then show the audience and the volunteer five large cards with a set of numbers. He would not view any of the cards as he displayed them to the audience.

All the volunteer had to do was answer yes if their secret number appeared on any of the multi numbered cards. After the volunteer had viewed all five cards the magician would give him or her the correct answer to their secret number.

The secret to our magician's trick is simply adding the top left hand numbers when the volunteer answered yes to that particular card as all cards are arranged in a special order and our magician knew the value of each cards number.

The trick works the same as our Color Computer adds in binary.

"Mr Magic" uses only 31 numbers for it's five screens or card displays. The idea to use this number instead of 63, was for a better screen display. When you play Mr MAGIC, or demonstrate to your friends how clever CoCo is, choose a number from 1 to 31 and answer Y or N to each screen you see your number there.

On completion CoCo will perform the magician's trick.

The Listing:

```
0 GOTO10
3 SAVE"35:3":END'2
10 REM -----
20 REM - MR MAGIC PROGRAMMED BY
30 REM - MATHEW & TOM LEHANE
40 REM - AUGUST 1987
50 REM -----
60 CLS
70 FOR X=43 TO 107 STEP 32
80 PRINTEX,STRING$(10,159)
90 NEXT X
100 PRINT@76,"mr"CHR$(128)"magic
";
110 PRINT@169,"PROGRAMMED BY"
120 PRINT
130 PRINTTAB(6)"MATHEW & TOM LEH
ANE"
140 PRINT
150 PRINTTAB(13)"1987"
160 FOR X=1 TO 2000:NEXT
170 REM set up for blank card
180 BL$=CHR$(143)
190 BB$=BL$+BL$+BL$+BL$
200 REM print instructions
210 CLS
220 AS$="*MR MAGIC* WILL READ YOU
R MIND.*CHOOSE A NUMBER FROM 1 T
O 31 THEN ANSWER YES OR NO TO
EACH SCREEN IF YOU SEE YOUR N
UMBER THERE.ON COMPLETION THE
COMPUTER WILL PRINT YOUR CARD'S
NUMBER."
230 GOSUB 270
240 PRINT@259,"PRESS ENTER WHEN
READY";:GOSUB 410
250 GOTO 430
260 REM routine to print AS
270 FOR X=1 TO LEN(AS)
280 ZZ$=MID$(AS,X,1)
290 POKE1023+X,159
300 FOR Z=1 TO 30:NEXTZ
310 PRINTZZ$;
320 NEXT X
330 RETURN
```

Continued on p 34


```

340 REM routine to poke reverse
350 REM text for yes or no
360 GOTO 430
370 FOR X=1474 TO 1499
380 POKE X,PEEK(X)-64
390 NEXT
400 RETURN
410 LINEINPUT ZZ$
420 RETURN
430 REM data to poke reverse
440 REM numerals on card face
450 DATA 32,49,32,51,32,53,32,55
,32,57,49,49,49,51,49,53
460 DATA 49,55,49,57,50,49,50,51
,50,53,50,55,50,57,51,49
470 '*****
480 DATA 32,50,32,51,32,54,32,55
,49,48,49,49,49,52,49,53
490 DATA 49,56,49,57,50,50,50,51
,50,54,50,55,51,48,51,49
500 '*****
510 DATA 32,52,32,53,32,54,32,55
,49,50,49,51,49,52,49,53
520 DATA 50,48,50,49,50,50,50,51
,50,56,50,57,51,48,51,49
530 '*****
540 DATA 32,56,32,57,49,48,49,49
,49,50,49,51,49,52,49,53
550 DATA 50,52,50,53,50,54,50,55
,50,56,50,57,51,48,51,49
560 '*****
570 DATA 49,54,49,55,49,56,49,57
,50,48,50,49,50,50,50,51
580 DATA 50,52,50,53,50,54,50,55
,50,56,50,57,51,48,51,49
590 REM *****
600 CLS:SH=2: CARD=0
610 FOR X=1 TO 8
620 READ C,D
630 PRINT@SH,BB$;
640 PRINT@SH+32,BB$;
650 POKE1057+SH,C
660 POKE1058+SH,D
670 PRINT@SH+64,BB$;
680 SH=SH+5
690 CARD=CARD+1
700 IF CARD=6 THEN SH=130
710 IF CARD=12 THEN SH=263
720 IF CARD=16 THEN SH=750
730 NEXT
740 GOTO 610
750 PRINT@450," IS YOUR NUMBER H
ERE (Y/N)";:GOSUB370:GOSUB410
760 '
770 COUNT=COUNT+1
780 'IF COUNT=5 THEN 720
790 ON COUNT GOTO 830,870,910,95
0,990
800 '
810 '
820 REM first card only
830 IF ZZ$="Y" THEN N=N+1
840 GOTO 600
850 '
860 ' second card
870 IF ZZ$="Y" THEN N=N+2
880 GOTO 600
890 '
900 ' third card only
910 IF ZZ$="Y" THEN N=N+4
920 GOTO 600
930 '

```

```

940 ' fourth card only
950 IF ZZ$="Y" THEN N=N+8
960 GOTO 600
970 '
980 ' fifth card only
990 IF ZZ$="Y" THEN N=N+16
1000 '
1010 '*****
1020 'print out answer
1030 CLS0
1040 AS=" YOUR CHOSEN NUMBER IS
CARD "
1050 GOSUB 270
1060 PRINT@236,BB$;
1070 PRINT@268,BB$;
1080 PRINT@300,BB$;
1090 Q$=STR$(N)
1100 Q$=RIGHT$(Q$,2)
1110 FOR X=1 TO 2

```

```

1120 ZZ$=MID$(Q$,X,1)
1130 A=VAL(ZZ$)
1140 IF X=1 AND A+48=48 THEN A=-
16
1150 POKE1292+X,A+48
1160 NEXT X
1170 PRINT@450,"** ANOTHER TRY (
Y= YES) **";
1180 GOSUB 370:GOSUB410
1190 IF ZZ$="Y" THEN RESTORE:COV
NT=0:N=0:GOTO240
1200 PRINT@0,"";
1210 AS=" BYE FOR NOW
"
1220 GOSUB 270:END

```



3 WORD JUMBLE

By Andrew Green

GAME
16K ECB

WORD JUMBLE IS A short game. The object is to unjumble the words that appear on the screen.

You get five points for each one right and lose five points for each one wrong.

If your score gets as low as zero, the game is over. Alternatively, if it gets as high as 100 points, you win!

Good luck!

To load, type (C)LOAD and RUN.

The Listing:

```

0 GOTO 10
1 *****
2 '* WORD JUMBLE *
3 '* BY *
4 '* ANDREW GREEN *
5 '* (C) 6/5/1987 *
6 *****

```

```

7 SAVE"60A:3":END'1
10 CLS
20 PRINT " word jumble"
30 PRINT " BY ANDREW GREE
N"
40 PRINT" THE OBJECT OF THIS GA
ME IS TO"
50 PRINT"UNJUMBLE THE WORDS THAT
APPEAR"
60 PRINT"ON THE SCREEN."
70 PRINT" YOU START ON 20 POINT
S AND YOU";
80 PRINT"GET FIVE POINTS FOR EAC
H ONE YOU";
90 PRINT"YOU GET RIGHT AND LOSE
FIVE "
100 PRINT"POINTS FOR EACH ONE WR
ONG."
110 PRINT"YOU HAVE TO TRY AND GE
T 100"
120 PRINT"POINTS. IF YOU GET DOWN
TO 0 THE"
130 PRINT"GAME IS OVER."
140 PRINT:PRINT " any
key"
150 FOR X=480 TO 503
160 PRINT@X,"+O++O";
170 PRINT@X," ";
180 SOUND 75,2:FOR I=1 TO100:NEX
T I
190 PRINT@X," ";
200 NEXT X
210 EXEC 44539

```


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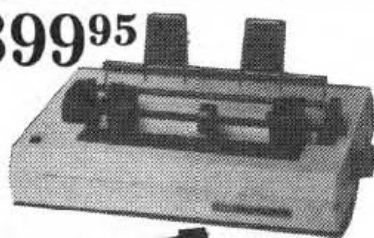
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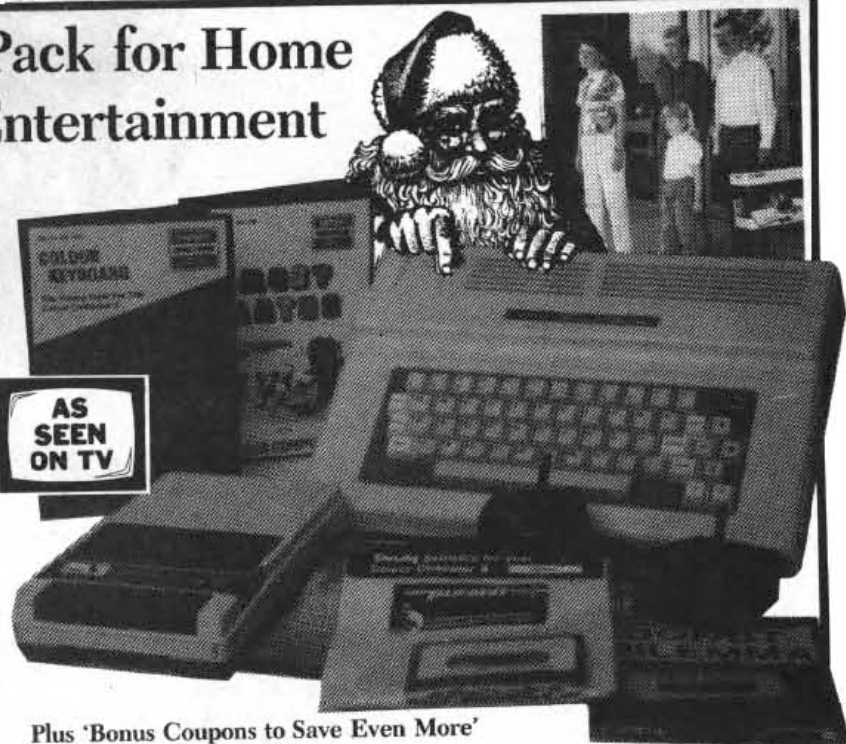
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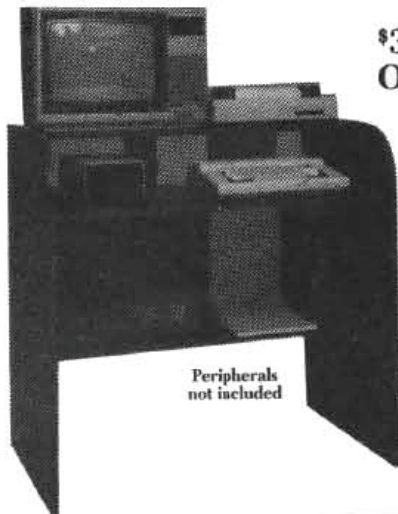
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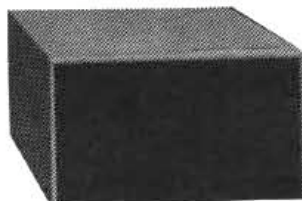
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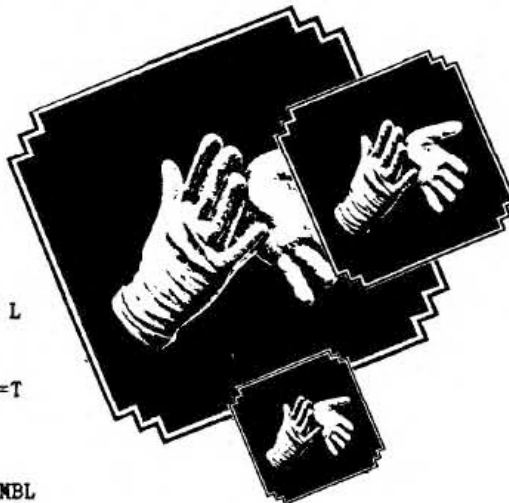
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```

220 SC=20
230 DIM WO(20)
240 RESTORE:CLS
250 SC=SC
260 N=RND(40)
270 FOR I=1 TO N
280 READ AS
290 NEXT I
300 REM
310 WS=AS:X=LEN(WS)
320 REM
330 FOR L=1 TO X:WO(L)=L:NEXT L
340 FOR L=X TO 1 STEP -1
350 Z=INT(L*RND(0)+1)
360 T=WO(L):WO(L)=WO(Z):WO(Z)=T
370 NEXT L
380 REM
390 PRINT:PRINT:PRINT"
SCORE"SC:PRINT:PRINTTAB(9)"JUNBL
ED WORD":PRINT:PRINT
400 FOR L=1 TO X
410 PRINTTAB(11) MID$(WS,WO(L),1
);
420 FOR D=1 TO 100:NEXT D
430 NEXT L
440 PRINT:PRINT:PRINT:PRINTTAB(5
)"ENTER UNJUMBLED WORD"
450 PRINT@361,"
460 FOR D=15 TO 45
470 SET(D,10,2)
480 NEXT D
490 FOR D=10 TO 17
500 SET(14,D,2)
510 NEXT D
520 FOR D=15 TO 45
530 SET(D,17,2)

```



```

540 NEXT D
550 FOR D=10 TO 17
560 SET(45,D,2)
570 NEXT D
580 FOR M=0 TO 63
590 SET(M,0,3):SET(M,31,3)
600 NEXT M
610 FOR M=0 TO 31
620 SET(0,M,3):SET(63,M,3)
630 NEXT M
640 PRINT@10,"word"CHR$(128)"jum
ble";
650 PRINT@361,"";:INPUT QS

```

```

660 IF QS="QUIT" THEN CLS:PRINT"
SCORE"SC:PRINT"PLAY AGAIN SOMET
IME":END
670 IF QS=VS THEN SC=SC+5:SOUND
200,4:PRINT@428,"RIGHT";:FOR B=1
TO 200:NEXT B ELSE SC=SC-5:PRIN
T@428,"WRONG";:SOUND 1,4:FOR B=1
TO 200:NEXT B
680 IF SC=100 THEN FOR I=1 TO 20
0 STEP 3:SOUND 1,1:NEXT I:PRINT@
418,"YOU HAVE MADE THE SET RECOR
D";:PRINT@450,"PRESS ANY KEY TO
START AGAIN";:EXEC 44539:RUN
690 IF SC=0 THEN PRINT@418,"SCOR
E=0 THAT MEANS GAME OVER";:PRINT
@450,"PRESS ANY KEY TO START AGA
IN";:EXEC 44539:RUN
700 GOTO 240
710 DATA "BOOK","AEROPLANE","COM
PUTER","LIGHTING","JUGGLER"
720 DATA "MUSIC","CASSETTE","LIG
HT","TABLE","CHAIR"
730 DATA "PENCIL","BLACK","WHITE
","YELLOW","TANDY"
740 DATA "MAGAZINE","DISK","CART
OON","RULER","SQUARE"
750 DATA "WITCH","NOTE","PAPER",
"ELEPHANT","TRUCK"
760 DATA "DOCTOR","NURSE","TIGER
","COLOUR","COVER"
770 DATA "CURTAIN","AUSTRALIA","
PAPERBOY","SCIENCE","EXTENDED"
780 DATA "STANDARD","COMMERCE","
EDUCATION","LIBRARY","ENTERTAIN"

```

⊕

Continued from p 30

```

1490 DATAGRACEFULBELFRY,GRACEFU
L,LABEL,BELFRY
1500 DATA"CHARMING, ATTRACTIVE",
A SLIP OF PAPER ATTACHED TO AN
OBJECT,A BELL TOWER
1510 DATATRAGICANCELAGOON,TRAGIC
,CANCEL,LAGOON
1520 DATA"DISASTROUS, APPALLING",
,TO CROSS OUT,A SALT WATER LAKE
1530 DATAVOLCANOTICERTAIN,VOLCAN
O,NOTICE,CERTAIN
1540 DATAA MOUNTAIN DISCHARGING
LAVA ETC.,A WARNING, ANNOUNCEME
NT",SURE
1550 DATAHEIRECEIVERANDAH,HEIR,R
ECEIVE,VERANDAH
1560 DATAA PERSON ENTITLED TO A
DEAD PERSON'S PROPERTY,"TO TAKE,
ACCEPT",AN OPEN GALLERY ALONG T
HE SIDE OF A HOUSE
1570 DATAEMPERORCHARDAINITY,EMPER
OR,ORCHARD,DAINTY
1580 DATATHE RULER OF AN EMPIRE,
A FARM OF FRUIT TREES,DELICATE
1588 REM*****EXTRA "LINES"*****
1589 REM*****FOR LATER USE*****
1590 REM*****DATAQUARTEREFERERIE,
QUARTER,REFEREE,EERIE
1610 REM*****DATAESKIMODELANTERN,B
SKIMO,MODEL,LANTERN
1630 REM*****DATABOMBBERFUSERVANT,
BOMBER,REFUSE,SERVANT

```

```

1650 REM***DATAEXCITEDPARTOMATO
,EXCITED,DEPART,TOMATO
1670 REM***DATASCHOONERVOUSHOW,S
CHOONER,NERVOUS,SHOW
1690 REM***DATAAROUSESERVICEEMPLOY,
AROUSE,SERVICE,EMPLOY
1710 REM***DATACREATEENCLOSESETTLE,
CREATE,ENCLOSE,SETTLE
1730 REM***DATAUSEVERALLOW,CAU
SE,SEVERAL,ALLOW
1750 REM***DATARESULTOMBALLET,RE
SULT,TOMB,BALLET
1770 REM***DATAQUIETRADESMANGEL,
QUIET,TRADESMAN,ANGEL
1780 REM***DATASTITCHCHEERFULIBERT
Y,STITCH,CHEERFUL,LIBERTY
1790 REM***DATAQUARRELQUIDDAIRY,
QUARREL,LIQUID,DAIRY
1800 REM***DATAWOOLLENERGETICAME
O,WOOLLEN,ENERGETIC,CAMEO
1810 REM***DATAPLUMBEREJOICENERG
Y,PLUMBER,REJOICE,ENERGY
1820 REM***DATAAPHRASENOUGHGHOST,PH
RASE,ENOUGH,GHOST
1830 REM***DATAUSENENRAGENJOY,PA
USE,ENRAGE,ENJOY
1840 REM***DATAROUNDERSANDWICHIE
F,ROUNDERS,SANDWICH,CHIEF
1850 REM***DATAUCHESSATURDAYIEL
D,DUCHESS,SATURDAY,YIELD
1860 END
1861 SAVE"34C:3":END'2

```

⊕

HEX TO DEC

By Mal McLaughlan
16K CB EDUCATIVE

WHEN LOOKING AT programs, it is useful to be able to convert "&H" numbers to ordinary decimal values. If you're like me, it's still difficult to think in hexadecimal!

This short program allows us to key in a hex number such as &HFFFF and tell us the decimal equivalent.

The Listing:

```

1 '** &H" NUMBERS (HEX) *****
*** CONVERT THEM TO DECIMAL****
*BY MAL MCLAUCHLAN,11 HUNTER ST*
***** BOONAH. Q.4310 *****
2 GOTO 10
3 SAVE"10A:3":END'2
4 '**UTILITY TO AID LEARNING AND
*****PROGRAMMING*****
10 CLS
15 PRINT:PRINT
20 INPUT"WHAT IS THE HEX NUMBER"
;N
25 PRINT:PRINT
30 PRINT"THE DECIMAL EQUIVALENT
IS";N
40 PRINT:PRINT:PRINT:PRINT" <p
ress any key for more">
50 EXEC44539
60 GOTO 10

```


TEACH YOURSELF Maths has enough comment lines to inform anyone interested. Advised by a teacher friend that it is useful for student's homework, as each student has his/her own particular problem to solve.

This would also prove useful to the student; he/she would be able to check their answers before submitting their work.



The Listing:

```
0 ***** TEACH      YOURSELF **
*****      *      MATHEMATI
CS          *      *      GO
RDON LEVIS      *      *
      JURIE W.A.      *
      *      12th.06. 1987.
      *      *****
*****
1 GOTO 10
2 '(C)SAVE"3TYSMATH/BAS" WORKS
  ON ANY MACHINE IF YOU KNOCK
  OUT THE***** *****WIDT
  H40:CLS3:ATTR3,2***** STATE
  MENTS. CoCo3 HAS A BETTER FORMAT

3 'THE IDEAS FOR THESE PROBLEM S
  OLVERS CAME FROM A BOOK BY L
  .C.PASCOE, MA.
4 'No. 1. A VEHICLE HAS TO TRAVE
  L [D] DISTANCE IN [T] TIME
  : AFTER [TS] HOURS IT IS F
  OUND THE SPEED AVERAGE HAS B
  EEN [A] AVERAGE: WHAT AVERAGE
  SPEED IS REQUIRED TO ARRIVE O
  N TIME?
5 'No. 2. YOU RECEIVE A CAKE AND
  DECIDE TO SHARE IT AMONGST
  [F] FRIENDS. [F] NUMBER OF SLI
  CES HAVE BEEN CUT AT [A] DEGRE
  ES FROM CENTRE. HOW MUCH LARGER
  IS YOUR PIECE OVER FRIENDS SL
  ICES.
6 'BUT AFTER CUTTING [H] SLICES
  AT [C] DEGREES YOU REDUCE TO
  UR OTHER [H2] FRIENDS SLICE
  S TO [C2] DEGREES AT THE CENTR
  E. HOW MUCH OF THE CAKE DO YOU
  GET? GIVE THE ANSWER AS A DE
  CIMAL.
7 'No. 3. YOU HAVE [P] TO INVEST
  IN 3 COMPANIES. COMPANY (
  3) HAS [X1] MORE INVESTED THAN
  COMPANY (2) WHICH HAS [X2]
  MORE INVESTMENT THAN COMPANY (1)
  YOU HAVE TO FIND THE AMOUNT I
  NVESTED IN EACH COMPANY.
8 'No. 4. 1 KG. IS APPROXIMATELY
  2.2 LB. HOW MANY OZS. ARE THE
  RE IN [K] KILOS HOW MANY [G]
  GRAMMES IN [O] OUNCES. HOW M
  ANY [G] GRAMMES IN [P] POUNDS,
  ETC.ETC. A CONVERSION PROGRAM
  REALLY.
9 '
10 '
```

Teach Yourself Maths

By Gordon Levis

EDUCATIVE
CoCo3



```
100 WIDTH40:CLS3:ATTR3,2:PRINT:P
RINT
110 PRINT"      PROBLEM SOLVIN
G PROGRAMS      ":PRINT
120 PRINT"      FROM THE
BOOK            ":PRINT
130 PRINT"      TEACH YOURSELF
MATHEMATICS     ":PRINT
140 PRINT"      BY L.C. PASCOE.
      M.A. (OXON)  ":PRINT
150 PRINT"      ADAPTED
      BY          ":PRINT
160 PRINT"      G.P. LEVIS. JU
RIEN. W.A.      ":PRINT
200 FOR X=1 TO 3000:NEXT X:CLS
250 CLS
300 PRINT:PRINT"      PROB
LEM SOLVER"
310 PRINT"      =====
=====":PRINT
320 PRINT"No.1. THIS PORTION WIL
L CALCULATE SPEED REQUIRED TO AR
RIVE AT A DESTINATION ON TIME V
HEN TIME/DISTANCE ARE KNOWN AND
AFTER SOME TIME/AVERAGE SPEED
ARE KNOWN.":PRINT
330 PRINT"No.2. YOU HAVE A CAKE
AND INTEND SHARINGWITH FRIENDS,
YOU CUT SLICES AT CERTAIN DEGREE
S AT CENTRE. PROGRAM CALCULATES
SIZE OF YOUR PIECE RELATIVE TO
FRIENDS."
```

340 PRINT"BUT! GREED OVERCOMES Y
OU AFTER CUTTING SOME SLICES AN
D UNSEEN BY FRIENDS YOU REDUCE
THE REMAINING SLICES A LITTLE.
THIS PORTION CALCULATES HOW MU
CH OF THE CAKE IS LEFT AS A DECI
MAL.":PRINT:PRINT
350 PRINT"PRESS [ENTER] TO CONTI
NUE TO NEXT MENU.
360 INPUT A\$
370 IF A\$=" " THEN 370:PRINT
380 CLS:PRINT:PRINT
400 PRINT"No.3. YOU WISH TO INVE
ST \$X IN THREE (3)TYPES OF SECUR
ITY...COMPANY [3] HAS X TIMES
THE INVESTMENT OF COMPANY [2] TH
ATHAS X TIMES THE INVESTMENT COM
PANY [1].

HOW MUCH IS
INVESTED IN EACH COMPANY.
402 PRINT
410 PRINT:PRINT
420 PRINT"No.4. ONE KILO IS APPR
OXIMATELY 2.2 LB.":PRINT
422 PRINT"HOW MANY POUNDS/OUNCES
/GRAMMES = X KILO?

HOW MA
NY KILO/OUNCES/GRAMMES = X POUND
S?

HOW MANY KILO/POUNDS/G
RAMMES = X OUNCES?"
424 PRINT"HOW MANY KILO/POUNDS/O
UNCES = X GRAMMES?"
450 PRINT:PRINT"PRESS [ENTER]
FOR SELECTION MENU."
500 INPUT A\$:IF A\$=" " THEN 500
510 CLS:PRINT:PRINT
520 PRINT" THE PROBLEM
SOLVER"
530 PRINT" *-*-*-*-*
--*-*=:PRINT:PRINT
540 PRINT" No.1. AVERAGE SPEE
D":PRINT
550 PRINT" No.2. THE CAKE":PR
INT
560 PRINT" No.3. INVESTMENT":
PRINT
570 PRINT" No.4. WEIGHT CONVE
RSION":PRINT
575 PRINT" No.5. QUIT PROGRAM
/COLD START":PRINT:PRINT
580 INPUT" SELECT [1-2-3-4
-5]";S
590 CLS:PRINT
600 ON S GOTO 1000,2000,3000,400
0,5000
1000 WIDTH40:CLS3:ATTR3,2
1010 PRINT"THIS PORTION WILL CAL
CULATE THE SPEED REQUIRED TO A
RRIVE AT A DESTINATION ON TIME
WHEN DISTANCE, TIME ALLOWED, AND
AFTER SOME TIME+AVERAGE SPEED
ARE KNOWN":PRINT"=====
=====
1020 INPUT"DISTANCE TO TRAVEL
";D
1030 INPUT"TIME ALLOWED
";T
1040 INPUT"TIME ALREADY SPENT
";TS
1050 INPUT"AVERAGE SPEED
";A


```

1060 ANS=(D-(A*TS))/(T-TS)
1070 PRINT:PRINT
1080 PRINT"THE AVERAGE SPEED PER
      HOUR REQUIRED TO ARRIVE AT DES
      TINATION ON TIME IS"ANS
1090 PRINT"=====
      ====="
1100 INPUT"ANOTHER CALCULATION (
      Y\N)";A$
1110 IF A$="Y" THEN 1000 ELSE GO
      TO 250
2000 WIDTH40:CLS3:ATTR3,2
2010 PRINT"YOU HAVE A CAKE AND X
      NUMBER OF FRIENDS.YOU CUT X SLI
      CES AT X DEGREES OF CENTRE.THIS
      PORTION CALCULATES REMAINDER LEF
      T FOR YOU RELATIVE TO FRIENDS S
      LICES."PRINT"=====
      ====="
2020 INPUT"HOW MANY FRIENDS
      ";F
2030 INPUT"ANGLE OF DEGREE AT CE
      NTRE";A
2040 PRINT
2050 X=360-(F*A)
2060 PRINT"LAST PIECE IS "X/A" T
      IMES LARGER."
2070 PRINT"=====
      ====="
2080 PRINT"AFTER CUTTING SOME SL
      ICES WE DECIDE TO ALTER THE ANG
      LE OF DEGREES AT CENTRE. THIS
      PORTION CALCULATES HOW MUCH OF T
      HE WHOLE CAKE IS LEFT. [ AS A DE
      CIMAL ]."
2090 PRINT"=====
      =====":PRINT
2100 INPUT"HOW MANY PIECES HAVE
      BEEN CUT ";H
2110 INPUT"ANGLE OF DEGREE AT CE
      NTRE ";C
2120 INPUT"HOW MANY MORE PIECES
      TO CUT ";H2
2130 INPUT"ANGLE OF DEGREE AT CE
      NTRE ";C2
2140 X=360-((H*C)+(H2*C2))
2150 PRINT
2160 PRINT"SIZE IN DECIMAL OF SL
      ICE LEFT IS "X/360
2170 PRINT"=====
      =====":PRINT
2180 INPUT"ANOTHER CALCULATION (
      Y\N) ";A$
2190 IF A$="Y" THEN 2000 ELSE GO
      TO 250
3000 WIDTH40:CLS3:ATTR3,2
3010 PRINT"YOU HAVE A PORTFOLIO
      OF $X TO INVEST IN 3 COMPANIES.
      COMPANY (3) INVESTMENT HAS X MOR
      E INVESTED THAN COMPANY (2) WHIC
      H IN TURN HAS X TIMES MORE INVE
      STMENT THANCOMPANY (1).
3020 PRINT
3030 PRINT"YOU HAVE TO FIND HOW
      MUCH IS INVESTED IN EACH COMPANY
      ."
3040 PRINT
3050 INPUT"HOW MUCH IS PORTFOLIO
      WORTH $";P
3060 PRINT
3070 INPUT"HOW MANY TIMES COMPAN
      Y (3) OVER (2)";X1

```

```

3080 PRINT
3090 INPUT"HOW MANY TIMES COMPAN
      Y (2) OVER (1)";X2
3100 X2=1*X2:X1=X2*X1:A=1+X1+X2
3110 X=P/A:X2=X2*X1:X1=X1*X
3120 CLS:PRINT
3130 X=INT(X*100+.5)/100
3140 X1=INT(X1*100+.5)/100
3150 X2=INT(X2*100+.5)/100
3160 PRINT"EACH UNIT IS WORTH
      $"X
3170 PRINT"=====
      ====="
3180 PRINT
3190 PRINT"COMPANY (1) INVESTMEN
      T ="$X
3200 PRINT
3210 PRINT"COMPANY (2) INVESTMEN
      T ="$X2
3220 PRINT
3230 PRINT"COMPANY (3) INVESTMEN
      T ="$X1
3240 PRINT"=====
      ====="
3250 PRINT
3260 PRINT"PORTFOLIO
      ="$P
3270 PRINT
3280 PRINT"TOTAL INVESTMENT
      ="$X+X1+X2
3290 PRINT"=====
      ====="
3300 PRINT
3310 INPUT"ANOTHER CALCULATION (
      Y\N)";A$
3320 IF A$="Y" THEN 3000 ELSE GO
      TO 250
4000 WIDTH 40:CLS3:ATTR3,2
4010 PRINT"1 KILO IS APPROXIMATE
      LY 2.2 LB. HOW MANYOUNCES ARE TH
      ERE IN N KILOS. HOW MANY GRAMM
      ES ARE THERE IN X OUNCES ETC. ET
      C."
4020 PRINT"=====
      ====="
4030 '1 KILO = 2.2 LBS
4040 '1 LB = 16 OZS
4050 '1 OZ = 28.4 GRAMMES
4060 '
4070 INPUT"HOW MANY KILOS ";K:PR
      INT
4080 P=K*2.2:O=K*35.2:G=K*1000
4090 '
4100 CLS
4110 PRINT K"KILOS = "P" POUNDS
      ":PRINT
4120 PRINT" = "O" OUNCES
      ":PRINT
4130 PRINT" = "G" GRAMME
      S":PRINT
4140 '
4150 INPUT"HOW MANY POUNDS";P1:P
      RINT
4160 K1=P1/2.2:O1=K1*35.2:G1=K1*
      1000
4170 '
4180 PRINT P1"POUNDS = "K1"KILOS
      ":PRINT
4190 PRINT" = "O1"OUNCE
      S":PRINT

```

```

4210 '
4220 INPUT"HOW MANY OUNCES";O2
4230 K2=O2/35.2:P2=K2*2.2:G2=K2*
      1000
4240 '
4250 PRINT O2"OUNCES = "K2"KILOS
      ":PRINT
4260 PRINT" = "P2"POUND
      S":PRINT
4270 PRINT" = "G2"GRAMM
      ES":PRINT
4280 '
4290 INPUT"HOW MANY GRAMMES";G3
4300 K3=G3/1000:P3=K3*2.2:O3=K3*
      35.2
4310 '
4320 PRINT G3"GRAMMES = "K3"KILO
      S":PRINT
4330 PRINT" = "P3"POUN
      DS":PRINT
4340 PRINT" = "O3"OUNC
      ES":PRINT
4350 PRINT:INPUT"ANOTHER CALCULA
      TION (Y\N)";A$:IF A$="Y"THEN 400
      0 ELSE GOTO 250
5000 CLS:PRINT:PRINT:PRINT
5010 PRINT"I HOPE THIS HAS BEEN
      OF SOME USE TO YOU."
5020 PRINT"*=*==*==*==*==*==*==*
      ==*==*==*==*==*==*==*==*==*
      ":PRINT:PRINT
      "BYE"
5030 FOR X=1 TO 2000:NEXT I:POKE
      113,0:EXEC40999

```

CATTLE BARON

By John Day

April 1987 Softgold
 Mods. by Anthony McGrath
 Tamworth, NSW

Below is a list of modifications and additions for "Cattle Baron". I found that by making the changes, it ran a lot better on our CoCo 3, especially when a lot of players go bankrupt!

```

125 J=N
270 FOR P=1TO N
      :CA(P)=20000
      :HE(P)=3000:
      :PP(P)=1
      :B(P)=0
500 P=P+1
      :IF B(P)=1THEN P=P+1 ELSE
      IF N<2 THEN 12000 ELSE
      IF P>5THEN P=1
505 IF B(P)=1THEN500
830 N=N-1
      :B(P)=1
4550 SB(P)=SB(P)-1
      :IF SB(P)<1THEN SB(P)=0
7426 PRINT#416,P$(P)", THAT
      COST YOU"INT(CA(P)*.1)
      +HE(P)
12000 N=J
      :GOTO700

```


Garden Chart

by Tom McCoy
32K ECB
APPLICATION

GARDENING CHART SEEDS TO PLANT- OCTOBER

TOMATOES
CALIF. POPPY
COLEUS
MARYGOLD
PHLOX
SALVIA
ZINNIA
BEANS
CUCUMBER
GOURDS

SWEET CORN
NASTURTIUM
CABBAGE
CARROT
RADISH
ASTER
CELOSIA
DAHLIA
PETUNIA
PORTULACA

SUNFLOWER
ALL HERBS
CAPSICUM
EGGPLANT
PUMPKIN
WATER MELON
BEETROOT
SNAPDRAGON
LETTUCE
SILVER BEET

THE PROGRAM THAT follows is my first complete program. It started out as a rainy day exercise to try to learn more about programming. After several hours it just grew and grew (as can be seen by the listing).

After about two weeks part time at night I think it was finished. There is much more that could be done with it but if I kept it any longer I might not have submitted it for publication, for reason of length.

The program is basically an application program to find out what type of plants can be planted and when.

As we live on a bush block up the sticks, it has already come in handy for my wife who likes to potter around in the garden and occasionally "play" (as she calls it) with my old grey CoCo.

It will give anybody basic garden care for each month, then ask if a "seed list" (for shopping with) is required (see example, table one).

If you follow the screen instructions I believe you shouldn't go wrong.

The program has been set for my son's TP-10, but it also works on my DMP-105. (No printer codes are used, so any printer will do the job.)

Thanks goes to Clive Winsall's "MILTOO" program in Oz CoCo Jan '86, pp33, for the basic idea for the program framework.

Much of the other workings

came from either CoCo or Softgold, my only other source of materials for learning.

The planting data came from various books on gardening, mainly "Yates Gardening Guide".

To reduce the size of the listing, all lines ending in "9" may be deleted without causing any problems.

As my son and I have a CoCo each and there are no user groups in the area, I would appreciate any and all hints or routines to reduce the size of or increase the efficiency of this program.

I will refund any postage costs and answer all letters. So get going as Spring is already upon us.

Happy gardening and computing.

The Listing:

```
0 GOTO20
1 ***** "GARDEN"
2 SAVE"338:3":END'10
3 N$="GRDNCHRT":CLS:PRINT@231,"C
SAVEING ";CHR$(34);N$;CHR$(34);:
PRINT@302,"NOW":CSAVEN$:CLS:PRIN
T@229,CHR$(34);N$;CHR$(34);" NOW
CSAVED":END
19 **VARIABLES, STRINGS, ARRAYS**
20 N=0:D=0:PK=0:V=31:C=42
30 H$="GARDENING CHART":S$="SEED
S TO PLANT"
35 S$=".....":L$="":DUS$="":Q
$="":N$=""
39 **DIM LINES**
40 DIM M$(12),SE$(63)
69 **DATA FROM 2000**
70 FORX=1TO12:READM$(X):NEXT
75 FORY=1TO63:READSE$(Y):NEXT
80 POKE359,13:SCREEN0,1
```

```
85 CLS:GOSUB100:GOSUB1600:GOTO30
0
99 **HEADING ROUTINE**
100 L$=STRING$(31,C):PRINT#D,TAB
(V/2-(LEN(H$)/2))H$:PRINTL$:RETU
RN
119 **HEADING CONTINUED**
120 GOSUB150:CLS:GOSUB100:PRINTM
O$(N);" (CONTINUED)":RETURN
129 **MONTH HEADING**
130 CLS:GOSUB100:PRINTMO$(N):RET
URN
149 **SCROLL STOP ROUTINE**
150 PRINTL$:PRINTTAB(5)"TO CONTI
NUO-<SP/BA>";
160 IFINKEY$<>" "THEN160 ELSERET
URN
169 **SEEDS HEADING**
170 CLS:PRINT#D,"SEEDS TO PLANT-
",MO$(N)
171 PRINT#D,".....
172 RETURN
179 **SEEDS HEAD. CONTINUED**
180 CLS:PRINT"SEEDS TO PLANT-",M
O$(N);" (CONTINUED)
181 PRINTL$
182 RETURN
199 **SELECT DEVICE, END, RERUN**
200 DUMMYS=INKEY$:SCREEN0,1:IFD
THENEND=0:V=31:C=42:GOTO3000
210 PRINT" TO eND/aGAIN/pRINTER-
[E/A/P]";
220 Q$=INKEY$:IFQ$=""THEN220
230 IFQ$="E"THEN3250 ELSEIFQ$="A
"THEN300
240 IFQ$<>"P"THENQ$="":GOTO220
250 PK=PEEK(&HFF22):IFINT(PK/2)=
PK/2 THEN D=-2 ELSE D=0:GOTO220
260 IFD THENV=32:C=45:GOTO3000 E
LSEV=31:C=42:GOTO3000
285 END
299 **MENU BLOCK**
300 CLS:GOSUB100
```



```

310 PRINT " :month:"
320 FORX=1TO12
330 PRINTMOS(X),S$;"[";X;"]"
350 NEXT
360 PRINTL3;
365 PRINT@80,"::select:: ":"LINE
INPUT N$;N=VAL(N$)
370 IFN$=""THEN365
380 IF N<1 OR N>12 THEN365
390 ON N GOSUB 1000,1050,1100,11
50,1200,1250,1300,1350,1400,1450
,1500,1550
395 GOTO3000
999 '**SEPTEMBER**
1000 GOSUB130
1010 PRINT" THE MAIN SOWING TIM
E FOR SUMMER FLOWERING ANNU
ALS,CERTAINPERENNIALS, HERBS AND
SUMMER VEGETABLES.
1015 PRINT" CONTINUE PLANTING O
UT TOMATOESAND SUCCESSIVE SOWING
S OF BEANS.DUST OR SPRAY FOR PES
TS, PARTICULARLY FOR RED SPIDER
MITE. START NEW COMPOST HEA
PS NOW.
1020 PRINT" PLAN VEGETABLE SOWI
NGS FOR YEAR-ROUND SUPPLIES.
1025 GOSUB150:RETURN
1049 '**OCTOBER**
1050 GOSUB130
1060 PRINT" VEGETABLE BEDS NEED
PRIORITY ATTENTION THIS MONTH.
THIN OUT ROOT CROPS AND PLANT
MAIN CROP OF TOMATOES AND REMOV
E UNWANTED GROWTH FROM OTHERS.
1065 PRINT" STRAWBERRIES ARE NO
W SHOWING COLOUR; TO KEEP CROPP
ING FEED NOW, TRANSPLANT ROOTS
D FLOWER SEEDLINGS BEFORE HOT
WEATHER BEGINS.
1066 GOSUB120
1068 PRINT" SWITCH FROM WINTER
TO SUMMER VARIETIES OF LETTUCE
TO PREVENT PLANTS RUNNING TO SEE
D.
1070 GOSUB150:RETURN
1099 '**NOVEMBER**
1100 GOSUB130
1110 PRINT" START REGULAR MULCH
ING WITH COMPOST TO CONSERVE M
OISTURE AND KEEP ROOTS COOL.
LIGHTLY CULTIVATE B
ETWEEN ROWSOF YOUNG PLANTS, ESPE
CIALLY AFTER ANY RAIN.
1115 PRINT" REMOVE WEAK GROWTHS
AND CUT LEADERS OF ANY RAMPAN
T GROWTH ON CUCURBITS. CARROTS
SOWN NOW MATURE IN ABOUT 3 MON
THS IF SOILIS KEPT DAMP (NOT WET
).
1116 GOSUB120
1118 PRINT" KEEP UP SPRAYING OR
DUSTING ---PREVENTION IS BETTE
R THAN
1120 PRINT"DAMAGED PLANTS. BEANS
SHOULD BE READY TO PICK THIS MO
NTH AND CONTINUE TO STAKE AND
PRUNE TOMATOES.
1125 GOSUB150:RETURN
1149 '**DECEMBER**
1150 GOSUB130
1160 PRINT" EARLY TOMATOES ARE

```

```

RIPENING SO CONTROL OF FRUIT P
LY IS ESSENTIAL. HOT, DRY W
EATHER NOW MEANS THOROUGH AND PE
NETRATING WATERING. KEEP BEANS
PICKED TO PROLONG CROPPING.
1165 PRINT" ROOT OUT WEEDS BEFO
RE THEY SEED. MULCH GROUND AB
OVE UNLIFT-ED BULBS IF NOT WELL
SHADED BY OTHER GROWTH.
1166 GOSUB120
1170 PRINT" RAKE COMPLETE PLANT
FOOD INTO SOIL OF SWEET PEA BED
S BEFORE SOWING SEEDS.
1175 GOSUB150:RETURN
1199 '**JANUARY**
1200 GOSUB130
1210 PRINT" MAKE NEW YEAR'S RES
OLUTION TO KEEP TO WATERING,
FERTILISINGAND SPRAYING PROGRAMM
ES. WINTER SOWINGS OF RHUBARB SH
OULD BE READY FOR PICKING. TV
IST OFF STALKS SO PLANTS ARE
NOT DAMAGED";
1215 PRINT" START PREPARING GRO
UND FOR GOOD WINTER VEGETABLE
S. BEDS BENEFIT FROM A COMBIN
ATION OF MANURE AND COMPLETE P
LANT FOOD UNLESS ROOT CROPS ARE
PLANNED.
1216 GOSUB120
1220 PRINT" FOR ROOT CROPS USE
A COMPLETE PLANT FOOD ONLY. REMO
VE UNWANTEDRUNNERS FROM STRAWBER
RIES. SOWINGS OF ICELAND
POPPIES MAYBEGIN.
1225 GOSUB150:RETURN
1249 '**FEBRUARY**
1250 GOSUB130
1260 PRINT" NORMALLY A DRY MONT
H, SO KEEP FLOWERS AND VEGETABLE
S PRODUCINGWELL WITH CORRECT WAT
ERING. THISIS ESSENTIAL FOR TOMA
TOES TO PREVENT BLOSSOM END R
OT CAUSED BY SUDDEN CHANGES IN
AMOUNTS OF
1265 PRINT"MOISTURE AVAILABLE TO
THE ROOTS. WATCH CLOSELY FOR P
ESTS. IF NECESSARY, LINE GROU
ND PREPAREDFOR WINTER VEGETABLES
.
1266 GOSUB120
1269 PRINT" PLANT EARLY BULBS S
UCH AS RENUCUS AND ANEMONE
.
1270 PRINT" START TO BLANCH STE
MS OF CELERY.SUMMER SOWINGS
OF CABBAGESHOULD BE READY TO HA
RVEST. BEST TIME TO MAKE MAJ
OR SOWINGS OF CARROTS & TURNIPS
FOR WINTER. DEADLINE FOR SOWING
S OF YOUR CAULIFLOWERS.
1275 GOSUB150:RETURN
1299 '**MARCH**
1300 GOSUB130
1310 PRINT" TIME TO PLANT BULBS
. GIVE THEM SOME TIME IN A VERY C
OOL PLACE (PREFERABLY A CRISPER
OF FRIDGE)PRIOR TO PLANTING BEF
ORE THE END OF NEXT MONTH.
ENJOY FRAGRANCES OF
HERBS
1315 PRINT"PLANTED EARLIER IN YE

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```

AR WHILE SOWING WINTER VEGETAB
LES IN STILL WARM GROUND.
1316 GOSUB120
1320 PRINT" KEEP UP WAR AGAINST
CABBAGE MOTH AND APHIS(STUNTS
CARROTS), VEGETABLE VERVIL; CAB
BAGE DUST WILL CONTROL ALL THES
E PESTS. PLANT EVERLASTING DAI
SIES FOR MID-WINTER FLOWERS.
1325 GOSUB150:RETURN
1349 '**APRIL**
1350 GOSUB130
1360 PRINT" DAFFODILS SHOULD BE
PLANTED THIS MONTH. CONTINUE
SOWINGS OF BROAD BEANS AND PEAS
FOR WINTER VEGETABLE SUPPLIES.
WATCH FOR DISEASES
WHICH WILL DEVELOP QUICKLY IN HU
MID WEATHERSUCH AS DOWNY MILDEW,
BROWN ROT,";
1365 PRINT"AND VARIOUS TYPES OF
BLIGHT. KEEP PLANTS GROWING
STRONGLY AND NOT THE WEEDS WHI
CH HELP PESTS TO BREED.
1366 GOSUB120
1370 PRINT" CHECK STORAGE OF SU
PPLIES SUCHAS FERTILISERS WHICH
MUST BE KEPT DRY.
1375 GOSUB150:RETURN
1399 '**MAY**
1400 GOSUB130
1410 PRINT" LAST MONTH FOR PLAN
TING BULBS AND SEEDS OF VARIETIE
S WHICH NEED WARMTH IN THE GR
OUND TO GERMINATE. WATERING P
ROGRAMME STILL IMPORTANT DESPI
TE COOLER WEATHER.
1415 PRINT" ACTIVITY IS SLOWING
DOWN BUT FLOWERS AND VEGETABLE
S STILL NEED ATTENTION. AS CR
OPS MATURE AND FLOWERS DIE DOWN,
RECONDIT- ION GARDEN SOIL AND F
ERTILISE.
1416 GOSUB120
1420 PRINT" PLANTS PULLED OUT O
F GARDEN PROVIDE GOOD MATERIAL
FOR THE COMPOST HEAP.
1425 PRINT" CABBAGE AND LETTUCE
SHOULD BE GROWING WELL.
1430 GOSUB150:RETURN
1449 '**JUNE**
1450 GOSUB130
1460 PRINT" SOV SEEDS OF DWARF
LINARIA IN BED WHERE BULBS WERE
PLANTED SO ALL WILL FLOWER TOGET
HER IN SPRING.
1465 PRINT" EXCELLENT TIME TO B
RING SOIL INTO FIRST CLASS COND
ITION WITH PEAT MOSS OR VERMICUL
ITE TO ENABLE IT TO RECEIVE
WATER SATIS-FACTORILY AND TO ALL
OW FOR CORRECT DRAINAGE.
1466 GOSUB120
1470 PRINT" IF ANY WATERLOGGING
IS APPAR- ENT, DRAINAGE MAY NEE
D SOME ATTENTION.
1475 GOSUB150:RETURN
1499 '**JULY**
1500 GOSUB130
1510 PRINT" PINCH OUT FIRST BUD
S OF EARLY POPPIES. PLAN SPRING
SOWINGS OF FLOWERS AND VEGETABLE

```


S. PREPARE BEDS FOR TO
Matoes AND LIKE HEAVILY IF NECCE
SSARY, AND LEAVE BARE FOR A MONT
H.

1520 PRINT" RHUBARB GROWING IN
EXPOSED POSITIONS WILL NEED P
ROTECTION FROM NEXT MONTH'S WIN
DS; GUARD THEM NOW BY CUTTING B
ASES FROM LARGE TINS.

1521 GOSUB120

1530 PRINT" PUT ONE OF THESE TI
ES OVER AND AROUND EACH PLANT
.CHECK ALL GARDENING EQUIPMENT A
ND REPLACE WORN OUT TOOLS.

1535 GOSUB150: RETURN

1549 '***AUGUST**

1550 GOSUB130

1560 PRINT" TIME TO CONSIDER AN
Y CHANGES WHICH WOULD IMPROVE T
HE OVERALL LAYOUT OF THE GARDEN,
OR TO MAKE ANY ADDITIONS SUCH AS
A SMALL HERB BED. CONDITION S
OIL FOR SPRING SOWINGS.

1570 PRINT" HARDEN OFF TOMATO S
BEDLINGS GROWN INDOORS, READY
FOR OUTDOOR PLANTING WHEN FROSTS
HAVE FINISH-ED. LETTUCE SOWN NOW
WILL BE READY TO HARVEST IN O
CTOBER.

1571 GOSUB120

1580 PRINT" BULBS ARE FLOWERING
AS A SIGN THAT A NEW GARDENING
YEAR IS ABOUT TO BEGIN.

1585 GOSUB150: RETURN

1599 '***INTRODUCTION**

1600 PRINT" ****BY TOM MCCO
Y**** THE INFORMATION THA
T FOLLOWS REFERS TO CLIMATIC CO
NDITIONS IN TEMPERATE AREAS.

1610 PRINT" FOR SUB-TROPICAL AN
D TROPICAL AREAS, A ROUGH RULE O
F THUMB IS TO BACKDATE ABOUT ONE
MONTH.

1615 PRINT" BUT FOR HEAT LOVING
PLANTS SUCH AS BEANS, TOMATOES
S, MARROWS ETC, THE SOWING TIMES
CAN BE GREATLY EXTENDED.

1618 GOSUB150:CLS:GOSUB100

1620 PRINT" FOR COLDER CLIMATES
, SOWING TIMES ARE REDUCED & A
RE GOVERNED BY THE SOIL TEMPERATU
RE AND THE INCIDENCE OF FROSTS.

1630 PRINT" WHATEVER THE CLIMAT
IC ZONE, THE FOLLOWING DATES F
OR PLANTING ARE ONLY TO BE USED A
S A GUIDE. NOTHING IS BETTER T
HAN LOCAL EXPERIENCE IN SUCH TH
INGS!!!

1640 PRINT" JUST PICK A M
ONTH HAPPY PLANTIN
G!!!

1650 GOSUB150: RETURN

1999 '***MONTHS**

2000 DATA" SEPTEMBER"," OCTOBE
R"," NOVEMBER"," DECEMBER","
JANUARY"," FEBRUARY"," MARCH",
" APRIL"," MAY"," JUNE"," JU
LY"," AUGUST"

2499 '***VEG/FLOWERS**

2500 DATA BROAD BEANS, ONIONS, ICE
LAND POPPY, POLYANTHUS, STOCK, CARN
ATION, KOHL RABI, TOMATOES, ASTER, C

ALIF. POPPY, CELOSIA, COLEUS, DAHLI
A, MARYGOLD, PETUNIA, PHLOX, PORTULAC
A

2510 DATA SALVIA, SUNFLOWER, ZINNI
A, ALL HERBS, BEANS, CAPSICUM, CUCUM
BER, EGGPLANT, GOURDS, PUMPKIN, SWEET
T CORN, WATER MELON, DELPHINIUM, SP
INACH, TURNIP, SWEET PEA, PANSY/VIO
LA, NASTURTIUM

2520 DATA BEETROOT, BROCCOLI, BRUS
SEL SPROUTS, CABBAGE, CAULIFLOWER,
MARROW/ZUCCHINI, PARSLEY, PARSNIP,
SQUASH, DIANTHUS, SNAPDRAGON, CARRO
T, LETTUCE, PEAS, RADISH, SILVER BEE
T

2530 DATA HOLLYHOCK, LOBELIA, CALE
NDULA, CANT/BURY BELLS, CANDYTUFT,
CORNFLOWER, GODETIA, LARKSPUR, LIN
ARIA, LIV/STONE DAISY, NEMESIA, VIRG
INIAN STOCK

2999 '***MAIN DISPLAY BLOCK**

3000 CLS: IF D THEN SCREEN0,0: PRI
NT0294,"PRINT OUT IN PROGRESS": G
OSUB100 ELSE GOSUB100

3010 PRINT#D,"SEEDS TO PLANT-",M
OS(M)

3020 PRINT#D,"....."

3030 ON N GOSUB 3050,3060,3070,3
080,3090,3100,3110,3120,3130,314
0,3150,3160

3049 '***SEPT SEEDS**

3050 FOR Y=7TO26: PRINT#D,SE\$(Y),
: NEXT: GOSUB150: GOSUB180

3051 PRINT#D,SE\$(35),SE\$(36),SE\$
(27),SE\$(28),SE\$(29),

3052 FOR Y=41TO44: PRINT#D,SE\$(Y)
,: NEXT

3053 PRINT#D,SE\$(46),SE\$(47),SE\$
(48),SE\$(50),SE\$(51)

3054 PRINT#D,LS: GOTO200

3059 '***OCT SEEDS**

3060 FOR Y=8TO27: PRINT#D,SE\$(Y),
: NEXT: GOSUB150: GOSUB180

3061 PRINT#D,SE\$(28),SE\$(29),SE\$
(35),SE\$(36),SE\$(39),

3062 PRINT#D,SE\$(46),SE\$(47),SE\$
(48),SE\$(50),SE\$(51)

3063 PRINT#D,LS: GOTO200

3069 '***NOV SEEDS**

3070 FOR Y=8TO27: PRINT#D,SE\$(Y),
: NEXT: GOSUB150: GOSUB180

3071 PRINT#D,SE\$(28),SE\$(29),: FO
RY=35TO44: PRINT#D,SE\$(Y),: NEXT

3072 PRINT#D,SE\$(46),SE\$(47),SE\$
(48),SE\$(50),SE\$(51)

3073 PRINT#D,LS: GOTO200

3079 '***DEC SEEDS**

3080 PRINT#D,SE\$(3),SE\$(4),SE\$(5
) ,SE\$(8),

3081 FOR Y=10TO25: PRINT#D,SE\$(Y),
: NEXT: GOSUB150: GOSUB180

3082 FOR Y=26TO30: PRINT#D,SE\$(Y),
: NEXT: FOR Y=33TO45: PRINT#D,SE\$(Y)
,: NEXT: GOSUB150: GOSUB180

3083 FOR Y=46TO48: PRINT#D,SE\$(Y),
: NEXT: PRINT#D,SE\$(50),SE\$(51)

3084 PRINT#D,LS: GOTO200

3089 '***JAN SEEDS**

3090 FOR Y=3TO8: PRINT#D,SE\$(Y),: N
EXT: PRINT#D,SE\$(10),

3091 FOR Y=14TO24: PRINT#D,SE\$(Y),
: NEXT: GOSUB150: GOSUB180

3092 PRINT#D,SE\$(58): FORY=26TO41
: PRINT#D,SE\$(Y),: NEXT: GOSUB150: G
OSUB180

3093 FOR Y=42TO48: PRINT#D,SE\$(Y),
: NEXT: PRINT#D,SE\$(50),SE\$(51)

3094 PRINT#D,LS: GOTO200

3099 '***FEB SEEDS**

3100 FOR Y=3TO8: PRINT#D,SE\$(Y),: N
EXT: PRINT#D,SE\$(10),: FORY=14TO26
: PRINT#D,SE\$(Y),: NEXT: GOSUB150: G
OSUB180

3101 PRINT#D,SE\$(28),: FORY=30TO4
8: PRINT#D,SE\$(Y),: NEXT: PRINT#D,S
E\$(50),SE\$(51)

3102 PRINT#D,LS: GOTO200

3109 '***MARCH SEEDS**

3110 PRINT#D,SE\$(1),SE\$(2),SE\$(3
) ,SE\$(5),SE\$(6),SE\$(7),

3111 FOR Y=52TO60: PRINT#D,SE\$(Y),
: NEXT: PRINT#D,SE\$(62),SE\$(63),SE
\$(30),SE\$(31),SE\$(32),: GOSUB150:
GOSUB180

3112 FOR Y=33TO37: PRINT#D,SE\$(Y),
: NEXT: PRINT#D,SE\$(39),SE\$(42),SE
\$(43),: FORY=45TO50: PRINT#D,SE\$(Y
) ,: NEXT: PRINT#D,SE\$(51)

3113 PRINT#D,LS: GOTO200

3119 '***APRIL SEEDS**

3120 FOR Y=1TO3: PRINT#D,SE\$(Y),: N
EXT: PRINT#D,SE\$(5),SE\$(6),: FORY=
52TO60: PRINT#D,SE\$(Y),: NEXT: PRIN
T#D,SE\$(62),SE\$(63),: GOSUB150: GO
SUB180

3121 FOR Y=30TO33: PRINT#D,SE\$(Y),
: NEXT: PRINT#D,SE\$(42),SE\$(45),SE
\$(46),SE\$(48),SE\$(49),SE\$(50)

3122 PRINT#D,LS: GOTO200

3129 '***MAY SEEDS**

3130 FOR Y=1TO3: PRINT#D,SE\$(Y),: N
EXT: PRINT#D,SE\$(5),SE\$(6),: FORY=
52TO56: PRINT#D,SE\$(Y),: NEXT: PRIN
T#D,SE\$(59),SE\$(60),SE\$(62),SE\$(
63),SE\$(31),

3131 PRINT#D,SE\$(42),SE\$(48),SE\$
(49),SE\$(50)

3132 PRINT#D,LS: GOTO200

3139 '***JUNE SEEDS**

3140 PRINT#D,SE\$(1),SE\$(2),: FORY
=59TO63: PRINT#D,SE\$(Y),: NEXT: PRI
NT#D,SE\$(31),SE\$(43),: FORY=47TO5
1: PRINT#D,SE\$(Y),: NEXT

3141 PRINT#D,LS: GOTO200

3149 '***JULY SEEDS**

3150 PRINT#D,SE\$(1),SE\$(2),SE\$(7
) ,SE\$(8),SE\$(59),SE\$(62),SE\$(63)
,SE\$(36),SE\$(39),SE\$(43),: FORY=4
7TO50: PRINT#D,SE\$(Y),: NEXT: PRINT
#D,SE\$(51)

3151 PRINT#D,LS: GOTO200

3159 '***AUG SEEDS**

3160 PRINT#D,SE\$(2),SE\$(7),SE\$(8
) ,SE\$(9),SE\$(59),SE\$(62),SE\$(63)
,SE\$(31),SE\$(36),SE\$(39),SE\$(43)
,: FORY=46TO50: PRINT#D,SE\$(Y),: NE
XT: PRINT#D,SE\$(51)

3161 PRINT#D,LS: GOTO200

3200 GOTO 200

3249 '***GOODBYE**

3250 CLS: PRINT0230,"HAPPY GREEN
FINGERS!!": END

⊕

COLOUR GRAPHICS

by David Dyson

CoCo 3 GRAPHICS



I CALL MY PROGRAM Colour Graphics because I used the PALETTE command to get the colours I wanted.

When you first RUN the program, you are to press any key - followed by a menu of 6 pictures.

These six graphics pictures are:

1. A truck,
2. "The Cougars" - a footy team,
3. A picture of the CoCo 3,
4. A man standing in the water,
5. A bird standing on a log or a tree,
6. And a man whose eye is blinking.

Enjoy!

The Listing:

```
0 GOTO 3
1 ***COLOR GRAPHICS**
2 SAVE"308:3":END'6
3 GOSUB1491:HSCREEN2:HCLS6:FOR T
=1TO26:HCOLOR RND(13):HPRINT(4,4
),"COLOR GRAPHICS FOR THE COCO I
11":NEXT
4 HDRAW"BM124,92;C8R50D60L50U60"
:HPAINT(128,102),8,8:HDRAW"U30F5
E10D20L15R15D30U50R20U5R2D5R2
D5R2D50U45R2D10U10R2D10U10R2D10U
10R2D10U10R2D45U60R2D10U10R2D10U
10R2D10U10R2D10U10R2D10U10R2D60"
:HPAINT(128,82),4,8:HPAINT(128,7
2),3,8:HPAINT(148,82),5,8
5 HPAINT(158,82),1,8:HPAINT(168,
82),7,8
6 HPRINT(10,20),"PRESS ANY KEY T
O CONT"
```

```
7 AS=INKEY$:IFA$=""THEN 7
8 HSCREEN0:CLS 2
9 PRINT"*****COLOR GRAPHICS
*****":PRINT" BY DAVID
L.W DYSON *":PRINT"
(C) COPYRIGHT 1987
*":PRINT"*****"
*****"
10 PRINT:PRINTSTRING$(35,"*"):PR
INT" <1> TRUCK
*":PRINT" <2> COUGARS
*":PRINT" <3
> COLOR COMPUTER 3 *":P
RINT" <4> A MAN STANDING IN T
HE SEA *":PRINT" <5> A BIRD O
N A PERCH *":
11 PRINT" <6> A PICTURE OF A
MAN'S FACE *":PRINTSTRING$(35,"*
")
12 :PRINT:PRINT:PRINT:INPUT"ENTE
R LETTER?":A:IFA>6THEN10
13 ON A GOTO 15,600,710,870,1090
,1340
15 HSCREEN2:HCLS9:HCOLOR10
16 HDRAW"BM36,156U20;M68,132;E20
R12E12R20U4R4U24R4D24R4D52L4D4L4
U4L4U52D56R12E8R32F12U4L4F4;M200
,164;BU20BL16L16U4R4U4L12D4R4D4L
12G12L4H4F4D4G4L16H4U4E4R16L24U8
R20D8L4BU4L12BD4L4F4D4G4L24H4U4E
4R24L28H4U16E16R8U4BR4R20U8L12G8
BL4D40"
17 HDRAW"BM80,156H12L16G12L4;BM8
4,160R4;BM116,160R4;BM140,156;M1
44,164"
18 HDRAW"BM52,144U8R8D8L8U8R2U20
L2V2R8D2L2D20R2D8"
19 HCOLOR11:HLIN(148,76)-(156,1
36),PSET,BF:HLIN(148,136)-(188,
128),PSET,BF:HLIN(152,96)-(320,
104),PSET,BF
20 HDRAW"BM188,128F20R90E4R26;BM
188,136F20R82E8":HPAINT(220,152)
,11,11
```

```
30 HCIRCLE(57,156),11,10:HCIRCLE
(57,156),3,10:HPAINT(64,156),10,
10
40 HCIRCLE(156,156),11,10:HCIRCL
E(156,156),3,10:HPAINT(165,156),
10,10
50 HPAINT(120,156),14,10:HPAINT(
92,156),14,10:HPAINT(68,140),13,
10:HPAINT(112,124),13,10:HPAINT(
116,108),15,10:HPAINT(112,146),1
5,10:HPAINT(136,112),12,10:HPAIN
T(44,140),13,10:HPAINT(84,140),1
1,10
560 HCIRCLE(176,156),11,10:HCIRC
LE(176,156),3,10:HPAINT(185,156)
,10,10
570 HPRINT(1,24)," (C) 1987 BY DA
VID DYSON A BIG MACK
580 AS=INKEY$:IFA$="" THEN 580
590 RUN
600 HSCREEN2:HCLS9:HCOLOR 10
610 HDRAW"BM64,156;M76,136;E4;M9
2,124;E4;M100,124;R16;M124,122;M
132,123;M136,124;BM97,120U6;M104
,116;R16;M128,112;E4U12;M98,80;M
96,76;U2;M108,68;M120,64;M132,56
;M144,52;M156,46;M152,60;M168,64
;M176,68;M184,76;M188,84;D1;M183
,100;D4F2;M200,116;M206,132"
620 HDRAW"BM206,132;M220,156;M64
,156;BM142,60;M116,68;DD1;M124,7
3;BM142,63;M136,67;BM144,64;M140
,65"
630 HDRAW"BM146,56;M154,51;M150,
56;BM144,56;M162,65"
640 HDRAW"BM164,83;M180,80;M196,
74;M202,76;M184,96;M178,104;BM18
7,84C9U2":HPAINT(148,124),14,10:
650 HDRAW"C10BM103,70;M108,72;M1
10,76;M112,80;M107,85":HPAINT(10
4,76),10,10:HDRAW"BM100,112;M104
,104;M104,109;M120,100;M132,98;B
M100,112;M97,120"
660 HDRAW"BM101,116;M108,110;M11
0,116;M112,112;M116,116;M118,111
;M120,116;M126,108;M126,112;BM97
,80;M94,84;M95,90;M101,84;M100,9
3;M104,88;M106,82"
670 HPAINT(120,108),11,10
680 HDRAW"BM120,80;M136,86;BM116
,80;M128,88;BM116,84;M132,92;BM1
16,88;M136,94"
690 HDRAW"BM132,72E4R8;M152,72;M
156,80;M148,76;L12H4":HPAINT(144
,72),12,10
700 HDRAW"EM108,12L16D16R16BR4U1
6R16D16L16BR20U16D16R16U16BR4D16
U16R16L16D16R16U8L4D4BR8D4U8E8F8
D8U8L16R16D4BD4BR4U16R12F4D4G4F4
H4L12BR20BD4R16U8L16U8R16"
701 HPRINT(1,22),"THE COUGARS FO
OTY TEAM":HPRINT(1,23),"FROM THE
YMCA OF GEELONG LITTLE LEAGE"
702 AS=INKEY$:IFA$="" THEN702
705 GOTO0
710 HSCREEN2:HCLS1:HCOLOR10
720 HDRAW"BM20,24;M264,24;D8L120
BD4R120D4L120BD4R120D4L120BD4R12
0D4L120BD4R120D4L120BD4R120U4D5
6;M20,80U12R120L120U4R120L120U4R
120L120U4R120L120U4R120L120U4R12
```



```

0120U4R120L120U4R120L120U4R120L
120U4R120L120U8D60BR44;M208,84;D
16;M64,100;U16"
730 HDRAW"BM4BR8R8L4D4BR4U2R2U1R2
U1D1R2D1R2D2U2L8R8D2BR4U4R2D1R2D
1R2D1R2D1R2U4BR4D4R4U1R2U1R2L2U1
L2U1L2BR6R2D1R2D3U3R2U1R2D12BL4
E16R4G16R4E16R4G16"
740 HPAINT(164,92),0,10;HDRAW"BM
148,88D4BR4R4L4U2R4U2L4R4BR4R4D2
L4D2R4U2L4U2R4BR4D4U2R2U1R2L2D2R
2;BM144,92R4L4D4R4BR4U4R4D4L4R4B
R4U4R4L4D4R4BR4U4R4D4L4U4R4D4L4R
4BR4R4U2L4R4U2L4"
750 HDRAW"BM40,4L12D12R12BR4U12R
12D12L12R12BU12BR4D12R12ER4U12R1
2D12L12R12BR4U12D12R12U12BR4D12U
4R8F4H4R4U8L12BR20BD12U12R12L12D
12R12BR4U12R12D12L12U12R12BR4D12
U12F6E6D12BR4U12R12D8L12R12BR4D4
U12D12R12U12BR4R12L6D12EF10U12R1
2L12D6R6L6D6R12BR4U12
760 HDRAW"R12D8L12R8F4BR4R12U6L6
R6U6L12"
770 HDRAW"BM64,120;M208,120;BR12
;R12D12L12U12;BM64,120D12;M208,1
32U12
780 FORS=64TO208STEP12:HLIN(S,1
20)-(S,132),PSET:NEXT:HLIN(S6,1
32)-(224,144),PSET,B
790 HLINE(60,144)-(228,156),PSET
,B:HLIN(64,156)-(220,168),PSET,
B:HLIN(200,168)-(224,180),PSET,
B:HLIN(92,172)-(192,184),PSET,B
800 HLINE(20,100)-(264,112),PSET
,B:HDRAW"BM20,84;M20,188;M264,18
8;M264,84;M20,84"
810 HLINE(48,116)-(240,188),PSET
,B
820 FOR D=56TO224STEP12:HLIN(D,
132)-(D,144),PSET:NEXT:FOR S=60 T
O228STEP12:HLIN(S,144)-(S,156),
PSET:NEXT:FOR S=64TO220STEP12:HLI
NE(S,156)-(S,168),PSET:NEXTS:HDR
AW"BM212,168D12":HDRAW"BM252,24R
12D100"
830 HPAINT(228,130),11,10;HPAINT
(228,168),2,10;HPAINT(122,92),0,
10;HPAINT(132,92),0,10;HPAINT(13
7,92),2,10;HPAINT(127,92),2,10;H
PAINT(196,92),0,10
840 HPAINT(172,42),9,10;HPAINT(2
24,92),9,10;HPAINT(44,92),9,10;H
PAINT(28,82),9,10;HPAINT(32,148)
,9,10
850 HPAINT(44,104),9,10
860 AS=INKEY$:IFAS="" THEN 860
861 GOTO0
870 PALETTE15,60;HSCREEN2:HCLS9;
HCOLOR8:HDRAW"BM0,96C2R319":HPAI
NT(319,191),2,2;
880 HCOLOR8:HLIN(113,100)-(116,
88),PSET:HLIN(116,88)-(120,80),
PSET
890 HDRAW"BM120,80R1E3U1F1E3R1U3
R1U3;BM131,68;M128,60;M128,56;M1
30,54;M132,54;M136,46;M140,45;M1
44,44;M151,52;M151,55;M153,55;M1
52,60;M172,44
900 HDRAW"BM172,44;M180,42;M188,
48;M200,48;M200,128;M168,138;M16

```

```

8,48;M176,48;M184,52;M188,48":HD
RAW"BM168,60;M151,70;M154,116;M1
53,120;M145,120;M144,108;M140,12
0;M136,122;M128,120
910 HDRAW"BM128,120;M128,92;M130
,80;M128,72;M116,88;M113,104;M11
6,116;M120,118;M128,116;D2;M120,
120;M116,120;M116,127;M112,132;M
114,134;M116,134;M122,128;D2R1E2
G2R2E2G2R2E2;M128,116;BM116,120U
3"
920 AS="L2D2R2"
930 HDRAW"BM128,96"+AS:HDRAW"BM1
28,98"+AS
940 HDRAW"BM124,128;M128,140;M14
0,140;M144,124;M140,140;M148,140
;M152,120
960 HCIRCLE(138,54),4,8;HCIRCLE(
144,54),4,8
970 HSET(138,54,8):HSET(144,54,8
)
980 HDRAW"BM131,68;M132,76;M134,
70;M133,80;M144,92;M148,78;F2E2"
990 HDRAW"BM148,72;M142,88;M131,
68"
1000 HDRAW"BM131,68;M140,72;M152
,68;M152,60"
1010 HDRAW"BM137,68F2E2;BM135,64
DLD2U2R12U1D2"
1020 HDRAW"BM140,56G4D2F2R3E4"
1030 HPAINT(184,99),9,8;HPRINT(2
1,7),"ABCD":HPRINT(21,8),"EFGH":
HPRINT(21,9),"IJKL":HPRINT(21,10
),"MNOP":HPRINT(21,11),"QRST":HP
RINT(21,12),"UVWX":HPRINT(21,13)
,"YZ"
1040 HPAINT(140,100),14,8;HPAINT
(124,92),14,8;HPAINT(164,60),14,
8;HPAINT(136,124),14,8;HPAINT(12
4,124),15,8;HPAINT(148,60),15,8;
HPAINT(160,46),15,8
1050 HPAINT(140,80),3,8;HPAINT(1
36,80),3,8
1060 HPAINT(120,119),9,8
1070 HDRAW"BM0,96;M12,80;M28,68;
M48,85;M60,68;M76,80;M88,84;M100
,88;M108,96;M0,96
1075 HPRINT(1,1),"Is this far en
ough"
1080 HPAINT(56,92),1,8
1089 AS=INKEY$:IFAS="" THEN 1089
ELSE GOTO0
1090 HSCREEN2:HCLS1:HCOLOR8:HDRA
W"BM0,96E5OR3F23R3;M108,80;M156,
84;M192,60;M290,96;M319,50"
1200 HDRAW"BM0,136;M36,132R8;M42
,128;M44,124E8G8U4E8;M56,109"
1210 HCIRCLE(60,106),6,8,.8;HCIR
CLE(60,100),3,8,2:HPAINT(60,106)
,1,8;HDRAW"BM56,106R9":HPAINT(60
,100),4,8
1215 HPAINT(0,0),5,8
1220 HDRAW"BM65,110F12D4H8F8DR1D
R1L1DL1DL2R1ODR1ODR1ODR1ODR1D1
OL1D1OD1OL1D1ODR1D1OL1D1OL5U8R1U1
OL1U1OR1U1OL1U1OR1U5L2OD1L2OD1L2
OU1L2OU1L2OU1"
1230 HDRAW"D1OL1D1OR1D1OL1D1OR1L
1L1D1OR1D1OL1D1OR1D1O"
1240 FS="D6R2U6L3R2
1250 HDRAW"BM44,128C8"+FS+"BR1"+

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FS+"BR1"+FS:HDRAW"BM68,128C8"+FS
+"BR1"+FS+"BR1"+FS
1260 HDRAW"BM51,132R17"
1270 HPAINT(60,124),4,8
1280 HDRAW"BM50,140C8;M48,148;M5
2,152;M58,144;M60,149;M62,144;M6
8,148;U2;M66,142;M72,144;M72,140
1290 HPAINT(64,142),4,8
1300 PALETTE 10,49;HPAINT(0,160)
,10,8;PALETTE11,34;HPAINT(136,16
0),11,8;HPAINT(60,160),11,8
1310 HCIRCLE(319,0),20,8;HPAINT(
315,5),1,8
1320 IS=INKEY$:IF IS="" THEN 132
0
1330 RUN
1340 HSCREEN2:HCLS4:HCOLOR8
1350 HDRAW"BM168,192U4;M184,184;
D8U8;M204,172;M216,168;M224,160;
M244,148;M246,140;M248,116;M248,
100;M250,92;M240,80;M236,64;M204
,52"1360 HDRAW"BM208,40;M196,24;M
178,26;M176,26;M178,24;M156,12;M
144,16;M112,32;M104,44;M108,56;E
4G4;M96,62;M80,64;M56,76;M50,84;
M48,96;M52,104;M72,116;M68,118;M
108,112;M114,104;M112,96
1370 HCIRCLE(136,68),17,8,.60
1380 HDRAW"BM112,108;M114,116;M1
06,130;M112,133;M120,134;M144,13
0;M172,112;M184,92;M190,108;M188
,120;M180,140;M156,156;M128,164;
M104,158;D26;M120,188;M144,190;M
168,188"
1390 HDRAW"BM144,16;C8;M168,40;M
192,72;F4;M208,100;M216,128;M224
,160"
1400 HPAINT(184,48),8,8;PALETTE1
1,60;HPAINT(132,80),11,8;HPAINT(
136,68),2,8
1410 HDRAW"BM76,116;M80,104;M88,
98;M94,104;M98,116"
1420 HDRAW"BM108,132;D28;BM120,1
34;D28;BM132,132;D32;BM144,130D2
9;BM156,123;D32;BM168,116;D32;BM
180,100;D38"
1430 HDRAW"BM108,148;R24;M168,13
2;M180,120"
1440 HPAINT(88,108),8,8
1460 FOR D=1TO10:HPAINT(0,0),13,8
:PALETTE13,RND(60):HPAINT(140,68
),12,8;HCIRCLE(136,68),17,12,.60
:PALETTE12,60;HDRAW"BM136,68;R17
L28":FORS=1TO500:NEXT:PALETTE12,
0:FORS=1TO500:NEXT
1470 NEXT
1480 IS=INKEY$:IF IS="" THEN 1480
1490 RUN
1491 ON BRK GOTO2010
1492 ON ERR GOTO2000
1500 WIDTH40:POKE65497,0:PALETTE
14,48:PALETTE13,50:PALETTE12,12:
PALETTE15,15:PALETTE11,36:PALETT
E10,0:PALETTE9,64
1510 RETURN
2000 PALETTECMP:PRINT"YOU MADE A
TYPO IN LINE";ERLIN:PRINT"ERROR
CODE";ERNO:END
2010 PALETTECMP:PRINT"BYE":END

```


CoCo3 takes a bow

by
Damien Clarke

COCO3
GRAPHICS



I WROTE THIS PROGRAM a couple of weekends after I bought my CoCo 3 - one of the first 300 computers in Australia. I sold my old faithful Korean Grey and MPI drive and controller and bought a CoCo 3 and 2 double sided drives.

I have come a long way from a 16K standard BASIC Computer with a tape recorder, a chess cartridge, and Pyramid (an adventure game).

While I am on this point, I have not heard any constructive criticism about the machine.

Five years ago, Tandy had a machine, much more powerful and expandable than the present machine. I would say that the Deluxe Colour Computer could have cast a few shadows over the Amiga, 5 years before it was released. The Deluxe CoCo was never released due to a gutless Tandy.

About the program. It uses oodles and oodles of HDRAW statements, so exercise care when typing this program in, or get this program on the monthly Softgold on tape or disk.

The lines are drawn in 'invisible ink' (I have setup 2 palette registers with the same number), and then a CoCo 3 appears, as if by magic (the palette register that the computer is drawn in, is used for the border colour for a different colour to HPAINT the fab CoCo 3 in).

If you are interested in reading about the Deluxe CoCo, it is in Australian Rainbow - August 1985 p.40.

This program would be good for inclusion in a range of programs, as a general title screen for practically any type of program.

The Listing:

```
1 *****3COCO*****
  *****DAMIEN CLARKE*****
  *****16/6/87*****
2 GOTO 10
3 SAVE"24:3":END'5
4 ' DRAWS A COCO 3 ON THE 640 X
  192, 4 COLOUR SCREEN.
10 'COCO
20 PALETTE RGB:PALETTE0,7:PALETT
  E1,63:PALETTE3,36:HSCREEN4:HCLS2
  :HCOLOR3:PALETTE2,7
30 HSET(110,066,0):HSET(108,68,0
  ):HSET(106,70,0):HSET(104,72,0):
  HSET(102,74,0):HSET(100,76,0)
40 HCOLOR1:HPRINT(2,0),"Good end
  ough to wait 5 years for:"
50 HDRAW"S4BM10,156COR420U3E10L4
  20R420D3E40L420R420U3L420R420E5L
  420R420U10L420R420E10D2L420R420E
  17L420R420U2L420R420E3L420G3D2G1
  7U2G10D10G3D3G40U3G12R420L420D12
  R420E53U8E30D8E2G85L420E5R420U14
  D14E85U25BM94,109R350G30L350E30B
  M125,137R200E5L200G5
60 HDRAW"BM395,137R18E5L18G5BM37
  0,137R18E5L18G5BM390,131R18E5L18
  G5BM382,125R18E5L18G5BM407,125R1
  8E5L18G5BM403,120R18E5L18G5BM413
  ,115R18E5L18G5BM363,131R20E5L20G
  5BM358,125R20E5L20G5BM372,115R18
  E5L18G5BM347,115R18E5L18G5BM378,
  120R18E5L18G5
70 HDRAW"BM353,120R18E5L18G5BM33
  8,131R18E5L18G5BM323,115R18E5L18
  G5BM300,115R18E5L18G5BM275,115R1
  8E5L18G5BM250,115R18E5L18G5BM226
  ,115R18E5L18G5BM201,115R18E5L18G
  5BM176,115R18E5L18G5BM150,115R18
  E5L18G5BM125,115R18E5L18G5BM100,
  115R18E5L18G5
80 HDRAW"BM328,120R18E5L18G5BM30
  3,120R18E5L18G5BM278,120R18E5L18
  G5BM253,120R18E5L18G5BM228,120R1
  8E5L18G5BM203,120R18E5L18G5BM178
  ,120R18E5L18G5BM153,120R18E5L18G
  5BM128,120R18E5L18G5BM103,120R18
  E5L18G5BM82,120R18E5L18G5BM335,1
  25R18E5L18G5"
90 HDRAW"BM311,125R18E5L18G5BM28
  7,125R18E5L18G5BM262,125R18E5L18
```

```
G5BM237,125R18E5L18G5BM212,125R1
  8E5L18G5BM187,125R18E5L18G5BM162
  ,125R18E5L18G5BM137,125R18E5L18G
  5BM112,125R18E5L18G5BM87,125R18E
  5L18G5BM314,131R18E5L18G5BM290,1
  31R18E5L18G5
100 HDRAW"BM266,131R18E5L18G5BM2
  41,131R18E5L18G5BM217,131R18E5L1
  8G5BM193,131R18E5L18G5BM169,131R
  18E5L18G5BM145,131R18E5L18G5BM12
  1,131R18E5L18G5BM95,131R20E5L20G
  5BM180,66R110BM310,66R180BM178,6
  8R110BM308,68R180BM176,70R110BM3
  06,70R180BM174,72R110
110 HDRAW"BM304,72R180BM172,74R1
  10BM302,74R180BM170,76R110BM300,
  76R180":HPAINT(320,79),1,0
120 HPAINT(320,96),1,0:HPAINT(32
  0,100),1,0:HPAINT(320,105),1,0:H
  PAINT(320,108),1,0:HPAINT(320,15
  0),1,0:HPAINT(320,155),1,0:HPAIN
  T(320,150),1,0:HPAINT(320,168),1
  ,0:HPAINT(490,99),0,0:HPAINT(450
  ,140),1,0:HPAINT(450,149),1,0:HP
  AINT(500,75),1,0
130 HPAINT(320,86),1,0:HPAINT(38
  9,135),1,0:HPAINT(398,136),1,0:H
  PAINT(410,128),1,0:HPAINT(390,13
  5),1,0:HPAINT(125,60),1,0:HPAINT
  (125,62),1,0:HPAINT(129,135),1,0
  :HPAINT(385,128),1,0:HPAINT(390,
  123),1,0:HPAINT(414,123),1,0:HPA
  INT(375,123),1,0
140 HPAINT(405,119),1,0:HPAINT(4
  23,112),3,0:HPAINT(374,114),1,0:
  HPAINT(350,114),1,0:HPAINT(380,1
  19),1,0:HPAINT(355,119),1,0:HPAI
  NT(340,130),1,0:HPAINT(330,114),
  1,0:HPAINT(305,114),1,0:HPAINT(2
  80,114),1,0:HPAINT(255,114),1,0:
  HPAINT(230,114),1,0
150 HPAINT(205,114),1,0:HPAINT(1
  80,114),1,0:HPAINT(155,114),1,0:
  HPAINT(130,114),1,0:HPAINT(105,1
  14),1,0:HPAINT(330,119),1,0:HPAI
  NT(305,119),1,0:HPAINT(280,119),
  1,0:HPAINT(255,119),1,0:HPAINT(2
  30,119),1,0:HPAINT(180,119),1,0:
  HPAINT(205,119),1,0
160 HPAINT(155,119),1,0:HPAINT(1
  30,119),1,0:HPAINT(105,119),1,0:
  HPAINT(85,119),1,0:HPAINT(340,12
  4),1,0:HPAINT(315,124),1,0:HPAIN
  T(290,124),1,0:HPAINT(240,124),1
  ,0:HPAINT(265,124),1,0:HPAINT(24
  0,124),1,0:HPAINT(230,124),1,0:H
  PAINT(190,124),1,0
170 HPAINT(167,124),1,0:HPAINT(1
  40,124),1,0:HPAINT(117,124),1,0:
  HPAINT(90,124),1,0:HPAINT(319,13
  0),1,0:HPAINT(294,130),1,0:HPAIN
  T(270,130),1,0:HPAINT(244,130),1
  ,0:HPAINT(220,130),1,0
180 HPAINT(200,130),1,0:HPAINT(1
  72,130),1,0:HPAINT(150,130),1,0:
  HPAINT(123,130),1,0:HPAINT(100,1
  30),1,0:HPAINT(100,135),0,0:HPAI
  NT(327,110),0,0
190 HCOLOR1:HPRINT(7,24),"A Tand
  y Colour Computer 3, of course!"
200 FOR X=1 TO 5000:NEXT X
210 EXEC 44539
Φ
```


Sale of the

MC-10 and 16K
CoCo Compatible
(Please Note: this
program does not appear
on Softgold on tape)

By David Hill

GAME
MC10

Century

THIS IS A SECOND edition of the Sale of the Century by David with all new questions and some new cash prizes for the correct answers.

I would almost bet that there will be very few of you who will score 100% on the first run through.

The listing SALE 11:

```
0 REM *****
1 REM **SALE OF THE CENTURY**
2 REM ** OCTOBER.1986 **
3 REM ** COMPOSED BY **
4 REM ** DAVID J. HILL **
5 REM ** AGE-15 **
6 REM *****
7 CLS
8 GOT09000
9 PRINT@32,"****first round****"
10 FORR=0T01000:NEXTR:PRINT
```

```
11 C=20:PRINT@256," SCORE
RE=";C:PRINT@0,"THE CHEMICAL SYM
BOL FOR NICKEL IS NI.WHAT IS WA
TER'S"
```

```
12 INPUT#
13 IFN#="H2O"THEN17
14 IFN#<>"H2O"THEN19
15 GOSUB10000
16 GOT021
17 GOSUB10000
18 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT015
```

```
19 GOSUB10000
20 PRINT@32,".....INCORRECT.....
IT'S H2O":SOUND50,10:C=C-5:PRIN
T@256," SCORE=";C:GOT015
```

```
21 GOSUB10000
23 PRINT@0,"WHICH VEIN DOES DRAC
ULA PREFER TO SUCK"
```

```
24 INPUT#
25 IFN#="JUGULAR"THEN29
26 IFN#<>"JUGULAR"THEN31
27 GOSUB10000
28 GOT033
29 GOSUB10000
30 PRINT@32,".....CORRECT.....":S
OUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT027
```

```
31 GOSUB10000
32 PRINT@32,".....INCORRECT.....
IT'S JUGULAR":SOUND50,21:C=C-5:P
RINT@256," SCORE=";C:GO
TO 27
```

```
33 GOSUB10000
35 PRINT@0,"WHICH DISEASE IS COM
MONLY CALLED THE KISSING DISEASE"
```

```
36 INPUT#
37 IFN#="GLANDULAR FEVER"THEN41
38 IFN#<>"GLANDULAR FEVER"THEN43
39 GOSUB10000
40 GOT045
```

```
41 GOSUB10000
42 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT039
```

```
43 GOSUB10000
44 PRINT@32,".....INCORRECT.....
IT'S GLANDULAR FEVER":SOUND50,25
:C=C-5:PRINT@256," SCORE
E=";C:GOT039
```

```
45 GOSUB10000
46 PRINT@0,"FILL IN THE MISSING
WORD.2 KINDS OF BATTERY:1)WET CEL
L-2)?? CELL"
```

```
47 INPUT#
48 IFN#="DRY"THEN52
49 IFN#<>"DRY"THEN54
```

```
50 GOSUB10000
51 GOT056
52 GOSUB10000
53 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT050
```

```
54 GOSUB10000
55 PRINT@32,".....INCORRECT.....
IT'S DRY ":SOUND50,25:C=C-5:PRIN
T@256," SCORE=";C:GOT05
0
```

```
56 GOSUB10000
57 PRINT@0,"WOULD A CELL CONTAIN
ING CHLOROPHYLL BELONG T
O a A PLANT b AN ANIMAL c A FUNG
US-LETTER"
```

```
58 INPUT#
59 IFN#="A"THEN63
60 IFN#<>"A"THEN65
```

```
61 GOSUB10000
62 GOT067
63 GOSUB10000
64 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT061
```

```
65 GOSUB10000
66 PRINT@32,".....INCORRECT.....
IT'S A ":SOUND50,25:C=C-5:PRIN
T@256," SCORE=";C:GOT061
```

```
67 GOSUB10000
68 PRINT@0,"****Special $10 ques
tion****"
```

```
69 FORR=0T01000:NEXTR:PRINT@0,"W
HEN WAS THE FIRST SPACE SHUTTLE
LIGHT"
```

```
70 INPUT#
71 IFN#="1981"THEN75
72 IFN#<>"1981"THEN77
73 GOSUB10000
74 GOT079
```

```
75 GOSUB10000
76 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT073
```

```
77 GOSUB10000
78 PRINT@32,".....INCORRECT.....
IT'S 1981":SOUND50,25:GOT073
```

```
79 GOSUB10000
80 PRINT@32,"****round two****"
FORR=0T01000:NEXTR:PRINT@32,"
```

```
81 PRINT@0,"WHAT IS ANOTHER WORD
FOR A BABY KANGAROO"
```

```
82 INPUT#
```

```
83 IFN#="JOEY"THEN87
84 IFN#<>"JOEY"THEN89
85 GOSUB10000
86 GOT091
87 GOSUB10000
88 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT085
```

```
89 GOSUB10000
90 PRINT@32,".....INCORRECT.....
IT'S JOEY":SOUND50,25:C=C-5:PRIN
T@256," SCORE=";C:GOT08
5
```

```
91 PRINT@0,"IN WHICH COUNTRY IS
MOUNT ST. HELENS"
```

```
92 INPUT#
93 IFN#="U.S.A"THEN97
94 IFN#<>"U.S.A"THEN99
```

```
95 GOSUB10000
96 GOT0101
97 GOSUB10000
98 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT095
```

```
99 GOSUB10000
100 PRINT@32,".....INCORRECT.....
IT'S U.S.A":SOUND50,25:C=C-5:PR
INT@256," SCORE=";C:GOT
095
```

```
101 PRINT@0,"WHO WROTE THE MOON
& SIXPENCE"
```

```
102 INPUT#
103 IFN#="W.SOMERSET MAUGHAM"TH
EN107
```

```
104 IFN#<>"W.SOMERSET MAUGHAM"TH
EN109
```

```
105 GOSUB10000:CLS
106 GOT0111
107 GOSUB10000
108 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT0105
```

```
109 GOSUB10000
110 PRINT@32,".....INCORRECT.....
IT'S W.SOMERSET MAUGHAM
":SOUND50,25:C=C-5:PRINT@256,"
SCORE=";C:GOT0105
```

```
111 PRINT@0,"WHICH ACTOR PLAYS M
R. SPOCK"
```

```
112 INPUT#
113 IFN#="LEONARD NIMOY"THEN117
114 IFN#<>"LEONARD NIMOY"THEN119
```

```
115 GOSUB10000
116 GOT0121
117 GOSUB10000
118 PRINT@32,".....CORRECT....."
SOUND200,10:C=C+5:PRINT@256,"
SCORE=";C:GOT0115
```

```
119 GOSUB10000
120 PRINT@32,".....INCORRECT.....
IT'S LEONARD NIMOY":SOUND50,25:
C=C-5:PRINT@256," SCORE
=";C:GOT0115
```

```
121 PRINT@0,"WHO SAID WHAT'S UP
DOC?"
```

```
122 INPUT#
123 IFN#="BUGS BUNNY"THEN127
124 IFN#<>"BUGS BUNNY"THEN129
```

```
125 GOSUB10000
126 GOT0131
```



```

127 GOSUB10000
128 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO125
129 GOSUB10000
130 PRINT@32,".....INCORRECT....
.IT'S BUGS BUNNY":SOUND50,25:C=C-
5:PRINT@256,"      SCORE=";
C:GOTO125
131 PRINT@32,"****sPecial $20 qu
estion":FORR=0T01500:NEXTR:PRINT
@32,"
"
132 PRINT@0,"WHO HAD THE HIT SON
G MELLOW      YELLOW"
133 INPUT#
134 IF#="DONOVAN"THEN138
135 IF#<>"DONOVAN"THEN140
136 GOSUB10000
137 GOTO142
138 GOSUB10000
139 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+20:PRINT@256,"
  SCORE=";C:GOTO136
140 GOSUB10000
141 PRINT@32,".....INCORRECT....
.IT'S DONOVAN":SOUND50,25:GOTO13
6
142 PRINT@32,"****round three***
*":FORR=0T01000:NEXTR:PRINT@32,"
"
143 PRINT@0,"FINISH THE SAYING-B
ETTER LATE"
144 INPUT#
145 IF#="THAN NEVER"THEN149
146 IF#<>"THAN NEVER"THEN151
147 GOSUB10000:CLR
148 GOTO153
149 GOSUB10000
150 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO147
151 GOSUB10000
152 PRINT@32,".....INCORRECT....
.IT'S THAN NEVER":SOUND 50,25:C=
C-5:PRINT@256,"      SCORE="
;C:GOTO147
153 PRINT@0,"WHAT IS A MARMOSET"
154 INPUT#
155 IF#="A MONKEY"THEN159
156 IF#<>"A MONKEY"THEN161
157 GOSUB10000
158 GOTO163
159 GOSUB10000
160 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO157
161 GOSUB10000
162 PRINT@32,".....INCORRECT....
.IT'S A MONKEY":SOUND50,25:C=C-5
:PRINT@256,"      SCORE=";C:
GOTO157
163 PRINT@0,"THE FUR OF WHAT CRE
ATURE IS   MARKETED UNDER THE
NAME OF FITCH"
164 INPUT#
165 IF#="POLECAT"THEN169
166 IF#<>"POLECAT"THEN171
167 GOSUB10000
168 GOTO173
169 GOSUB10000
170 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO167
171 GOSUB10000
172 PRINT@32,".....INCORRECT....
.IT'S POLECAT":SOUND50,25:C=C-5:
PRINT@256,"      SCORE=";C:G
OTO167
173 PRINT@0,"WHAT BREED OF DOG W
AS ORIGINALLYCALLED THE DWARF SP
ANIEL"
174 INPUT#
175 IF#="PAPILLON"THEN179
176 IF#<>"PAPILLON"THEN181
177 GOSUB10000
178 GOTO183
179 GOSUB10000
180 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO177
181 GOSUB10000
182 PRINT@32,".....INCORRECT....
.IT'S PAPILLON":SOUND50,25:C=C-5:
PRINT@256,"      SCORE=";C:G
OTO177
183 PRINT@0,"IN POETRY A PAUSE O
R STOP WITHIN A LINE IS CALLED A
WHAT"
184 INPUT#
185 IF#="CAESURA"THEN189
186 IF#<>"CAESURA"THEN191
187 GOSUB10000
188 GOTO193
189 GOSUB10000
190 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+5:PRINT@256,"
  SCORE=";C:GOTO187
191 GOSUB10000
192 PRINT@32,".....INCORRECT....
.IT'S CAESURA":SOUND50,25:C=C-5:
PRINT@256,"      SCORE=";C:G
OTO187
193 PRINT@32,"****last question*
***":FORR=0T01499:NEXTR
194 PRINT@32,"
"
195 PRINT@32,"****sPecial $40 qu
estion***":FORR=0T01500:NEXTR
196 GOSUB10000
197 PRINT@0,"WHICH CLOCK TOWER B
ELL IS IN   LONDONS PALACE OF W
ESTMINSTER"
198 INPUT#
199 IF#="BIG BEN"THEN203
200 IF#<>"BIG BEN"THEN205
201 GOSUB10000
202 GOTO207
203 GOSUB10000
204 PRINT@32,".....CORRECT....."
:SOUND200,10:C=C+40:PRINT@256,"
  SCORE=";C:GOTO201
205 GOSUB10000
206 PRINT@32,".....INCORRECT....
.IT'S BIG BEN":SOUND50,25:GOTO20
1
207 FORR=0T01500:NEXTR:CLS
208 PRINT@236,"game over"
209 FORR=0T01500:NEXTR
210 PRINT@256,"      your score
was "C
211 FORR=0T02000:NEXTR
212 PRINT@288,"      your % was"
;C/165*100,"%
220 FORR=0T06500:NEXTR:CLS
8999 END
9000 FORB=0T063:SET(B,0,3):NEXTB
:FORB=0T031:SET(63,B,3):NEXTB:FO
RB=0T031:SET(0,B,3):NEXTB:FORB=0
T063:SET(B,31,3):NEXTB
9001 SET(1,1,3):SET(2,2,3):SET(3
,3,3):SET(4,4,3):SET(5,5,3):SET(
6,6,3):SET(1,30,3):SET(2,29,3):S
ET(3,28,3):SET(4,27,3)
9002 SET(5,26,3):SET(6,25,3):SET
(62,1,3):SET(61,2,3):SET(60,3,3)
:SET(59,4,3):SET(58,5,3):SET(57,
6,3):SET(62,30,3):SET(61,29,3)
9003 SET(60,28,3):SET(59,27,3):S
ET(58,26,3):SET(57,25,3):FORB=7T
056:SET(B,7,3):NEXTB:FORB=7T024:
SET(56,B,3):NEXTB
9004 FORB=7T024:SET(7,B,3):NEXTB
:FORB=7T056:SET(B,24,3):NEXTB
9005 FORR=2T05:SET(19,R,4):NEXTR
:SET(14,2,4):SET(14,5,4):FORR=3T
04:SET(15,R,4):NEXTR
9006 FORR=2T05:SET(17,R,4):NEXTR
:FORR=2T05:SET(19,R,4):NEXTR:SET
(18,2,4):SET(18,4,4):FORR=2T04:S
ET(21,R,4):NEXTR
9007 FORR=2T04:SET(23,R,4):NEXTR
:SET(22,5,4):FORR=25T027:SET(R,2
,4):NEXTR:FORR=25T027:SET(R,5,4)
:NEXTR:SET(26,3,4):SET(26,4,4)
9008 FORR=2T05:SET(29,R,4):NEXTR
:SET(30,2,4):SET(30,5,4):SET(30,
5,4):SET(31,3,4):SET(31,4,4)
9009 FORR=2T05:SET(35,R,4):NEXTR
:FORR=3T04:SET(36,R,4):NEXTR:FOR
R=2T05:SET(37,R,4):NEXTR:FORR=39
T041:SET(R,2,4):NEXTR
9010 FORR=39T041:SET(R,5,4):NEXTR
R:FORR=3T04:SET(40,R,4):NEXTR:FO
RR=2T05:SET(43,R,4):NEXTR:FORR=4
3T045:SET(R,5,4):NEXTR
9011 FORR=2T05:SET(47,R,4):NEXTR
:FORR=47T049:SET(R,5,4):NEXTR
9012 FORR=15T017:SET(R,26,4):NEX
TR:FORR=19T021:SET(R,26,4):NEXTR
:FORR=23T025:SET(R,26,4):NEXTR:F
ORR=27T029:SET(R,26,4):NEXTR
9013 FORR=31T033:SET(R,26,4):NEX
TR:FORR=35T037:SET(R,26,4):NEXTR
:FORR=39T041:SET(R,26,4):NEXTR:F
ORR=43T045:SET(R,26,4):NEXTR
9014 SET(15,27,4):SET(17,27,4):S
ET(19,27,4):SET(21,27,4):FORR=23
T025:SET(R,27,4):NEXTR:SET(27,27
,4)
9015 FORR=31T033:SET(R,27,4):NEX
TR:SET(35,27,4):SET(37,27,4):SET
(40,27,4):SET(43,27,4):FORR=15T0
17:SET(R,28,4):NEXTR
9016 SET(19,28,4):SET(20,28,4):S
ET(23,28,4):SET(29,28,4):SET(31,
28,4):SET(35,28,4):SET(37,28,4):
SET(40,28,4):SET(45,28,4)
9017 SET(15,29,4):SET(19,29,4):S
ET(21,29,4):FORR=23T025:SET(R,29
,4):NEXTR:FORR=27T029:SET(R,29,4
):NEXTR
9018 FORR=31T033:SET(R,29,4):NEX
TR:SET(35,29,4):SET(37,29,4):SET
(40,29,4):FORR=43T045:SET(R,29,4
):NEXTR:SET(47,29,4)
9019 SET(49,29,4):SET(51,29,4):S
ET(53,29,4):SET(55,29,4):SET(57,
29,4):FORR=0T01000:NEXTR
9020 FORR=9T011:SET(R,9,2):NEXTR
:SET(9,10,2):FORR=9T011:SET(R,11
,2):NEXTR:SET(11,12,2):FORR=9T01
1:SET(R,13,2):NEXTR
9021 FORR=13T015:SET(R,9,2):NEXTR
R:FORR=9T013:SET(13,R,2):NEXTR:F
ORR=9T013:SET(15,R,2):NEXTR:SET(
14,11,2)
9022 FORR=9T013:SET(17,R,2):NEXTR
R:FORR=17T019:SET(R,13,2):NEXTR:
FORR=21T023:SET(R,9,2):NEXTR:FOR
R=21T023:SET(R,13,2):NEXTR
9023 FORR=9T013:SET(30,R,2):NEXTR
R:FORR=9T013:SET(32,R,2):NEXTR:S
ET(31,9,2):SET(31,13,2)
9024 FORR=9T013:SET(21,R,2):NEXTR
R:SET(22,11,2)
9025 FORR=9T013:SET(34,R,2):NEXTR
R:FORR=34T036:SET(R,9,2):NEXTR:S
ET(35,11,2):FORR=44T046:SET(R,9,
2):NEXTR
9026 FORR=9T013:SET(45,R,2):NEXTR
R:FORR=9T013:SET(48,R,2):NEXTR:F
ORR=9T013:SET(50,R,2):NEXTR:SET(
49,11,2)
9027 FORR=9T013:SET(52,R,2):NEXTR
R:FORR=52T054:SET(R,9,2):NEXTR:F
ORR=52T054:SET(R,13,2):NEXTR:SET
(53,11,2)
9028 SET(9,22,2):SET(11,22,2):SE
T(13,22,2):SET(15,22,2):FORR=17T
019:SET(R,18,2):NEXTR:FORR=17T01
9:SET(R,22,2):NEXTR
9029 FORR=18T022:SET(17,R,2):NEX
TR:FORR=21T023:SET(R,18,2):NEXTR
:FORR=21T023:SET(R,22,2):NEXTR:F
ORR=18T022:SET(21,R,2):NEXTR
9030 SET(22,20,2):FORR=18T022:SE
T(25,R,2):NEXTR:FORR=18T022:SET(

```




Garfield

by
Andrew Green

32k ECB
GRAPHICS

GARFIELD IS A program I wrote one day when I was sitting down at my computer with nothing to do.

The whole program was written using the LINE command, I used the "Line Master" utility by Tom Lehane.

All you have to do is type CLOAD and RUN - CoCo will do the rest.

I would like to enter it into the graphics competition now running.

Hope you enjoy Garfield.

The Listing:

```

1 GOTO 10
2 *****
3 ** GARFIELD! **
4 ** BY **
5 **ANDREW GREEN **
6 ** (C) COPYRIGHT **
7 ** 1987 **
8 *****
9 SAVE"60:3":END'5
10 POKE 65495,0
20 CLSO
30 PRINT@139,"GARFIELD!";
40 PRINT@168,"BY ANDREW GREEN";
50 PRINT@234," (C) 10/8/87";
60 PRINT@361,"PLEASE WAIT!";
70 FOR Z=0 TO 31:X=RND(9)-1:SET(
Z,0,X):SET(0,Z,X):SET(63-Z,0,X):
SET(63,Z,X):SET(Z,31,X):SET(63-Z
,31,X):NEXT Z
80 PMODE 4:PCLS1:COLOR,1

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90 FOR Z=1 TO 524
100 READ A,B,C,D
110 LINE(A,B)-(C,D),PSET
120 NEXT
130 LINE(0,0)-(256,192),PSET,B
140 PSET(170,14)
150 PSET(50,84)
160 PSET(49,85)
170 PSET(232,169)
180 PAINT(140,20)
190 PAINT(160,20)
200 PAINT(180,20)
210 PAINT(200,25)
220 PAINT(218,43)
230 PAINT(250,73)
240 PAINT(219,83)
250 PAINT(226,83)
260 PAINT(234,83)
270 PAINT(50,63)
280 PAINT(50,90)
290 PAINT(65,83)
300 PAINT(48,84)
310 PAINT(40,160)
320 PAINT(74,160)
330 PAINT(98,160)
340 PAINT(128,160)
350 PAINT(153,160)
360 PAINT(153,140)
370 PAINT(173,160)
380 PAINT(198,160)
390 PAINT(218,160)
400 SCREEN 1,0
410 GOTO 410
420 DATA 84, 48, 78, 40
430 DATA 78, 40, 69, 33
440 DATA 69, 33, 62, 28
450 DATA 62, 28, 57, 26
460 DATA 57, 26, 53, 29
470 DATA 53, 29, 51, 32
480 DATA 51, 32, 51, 37

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490 DATA 51, 37, 51, 40
500 DATA 50, 40, 50, 41
510 DATA 57, 25, 66, 26
520 DATA 66, 26, 74, 29
530 DATA 74, 29, 83, 34
540 DATA 83, 34, 88, 39
550 DATA 88, 39, 95, 50
560 DATA 55, 47, 47, 41
570 DATA 47, 41, 37, 36
580 DATA 37, 36, 30, 36
590 DATA 30, 36, 24, 36
600 DATA 24, 36, 23, 37
610 DATA 23, 37, 31, 39
620 DATA 31, 39, 41, 42
630 DATA 41, 42, 43, 44
640 DATA 43, 44, 47, 47
650 DATA 47, 47, 51, 50
660 DATA 26, 57, 22, 50
670 DATA 22, 50, 20, 45
680 DATA 20, 45, 19, 42
690 DATA 19, 42, 21, 40
700 DATA 21, 40, 22, 37
710 DATA 26, 57, 37, 54
720 DATA 37, 54, 47, 51
730 DATA 47, 51, 60, 49
740 DATA 60, 49, 72, 48
750 DATA 72, 48, 84, 48
760 DATA 84, 48, 101, 51
770 DATA 101, 51, 112, 52
780 DATA 112, 52, 117, 53
790 DATA 117, 53, 123, 57
800 DATA 123, 57, 124, 60
810 DATA 124, 60, 120, 60
820 DATA 120, 60, 127, 64
830 DATA 127, 64, 124, 65
840 DATA 124, 65, 115, 62
850 DATA 115, 62, 105, 61
860 DATA 105, 61, 92, 60
870 DATA 92, 60, 82, 60
880 DATA 82, 60, 72, 61
890 DATA 72, 61, 61, 62
900 DATA 61, 62, 48, 65
910 DATA 48, 65, 38, 69
920 DATA 38, 69, 27, 73
930 DATA 27, 73, 19, 76
940 DATA 19, 76, 13, 79
950 DATA 13, 79, 13, 78
960 DATA 13, 78, 11, 75
970 DATA 11, 75, 12, 71
980 DATA 12, 71, 15, 66
990 DATA 15, 66, 20, 61
1000 DATA 20, 61, 25, 58
1010 DATA 47, 66, 46, 73
1020 DATA 46, 73, 47, 75
1030 DATA 47, 75, 49, 80
1040 DATA 49, 80, 50, 83
1050 DATA 50, 83, 45, 83
1060 DATA 45, 83, 37, 82
1070 DATA 37, 82, 32, 79
1080 DATA 32, 79, 27, 74
1090 DATA 27, 74, 29, 80
1100 DATA 29, 80, 32, 86
1110 DATA 32, 86, 36, 88
1120 DATA 36, 88, 40, 90
1130 DATA 40, 90, 43, 89
1140 DATA 43, 89, 50, 86
1150 DATA 43, 84, 42, 86
1160 DATA 42, 86, 44, 88
1170 DATA 52, 83, 59, 82
1180 DATA 59, 82, 68, 81
1190 DATA 69, 81, 76, 80
1200 DATA 76, 80, 83, 79
1210 DATA 83, 79, 88, 79
1220 DATA 88, 79, 89, 70

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1230 DATA 89, 70, 88, 63	1970 DATA 69, 110, 66, 114	2710 DATA 129, 27, 137, 19
1240 DATA 88, 63, 87, 60	1980 DATA 66, 114, 64, 120	2720 DATA 137, 19, 144, 16
1250 DATA 88, 80, 79, 87	1990 DATA 64, 120, 68, 125	2730 DATA 144, 16, 151, 13
1260 DATA 79, 87, 72, 89	2000 DATA 68, 125, 75, 125	2740 DATA 151, 13, 160, 12
1270 DATA 72, 89, 65, 91	2010 DATA 75, 125, 79, 123	2750 DATA 160, 12, 177, 13
1280 DATA 65, 91, 60, 89	2020 DATA 86, 110, 81, 115	2760 DATA 177, 13, 187, 15
1290 DATA 60, 89, 53, 85	2030 DATA 81, 115, 79, 121	2770 DATA 187, 15, 196, 18
1300 DATA 53, 85, 51, 87	2040 DATA 79, 121, 80, 126	2780 DATA 196, 18, 203, 24
1310 DATA 51, 87, 49, 89	2050 DATA 80, 126, 83, 129	2790 DATA 203, 24, 212, 32
1320 DATA 49, 89, 48, 92	2060 DATA 83, 129, 90, 128	2800 DATA 212, 32, 219, 41
1330 DATA 48, 91, 51, 93	2070 DATA 90, 128, 93, 124	2810 DATA 219, 41, 221, 48
1340 DATA 51, 93, 55, 93	2080 DATA 93, 124, 94, 121	2820 DATA 221, 48, 219, 58
1350 DATA 55, 93, 57, 89	2090 DATA 94, 121, 102, 124	2830 DATA 220, 47, 212, 47
1360 DATA 64, 82, 65, 86	2100 DATA 102, 124, 111, 122	2840 DATA 213, 47, 213, 41
1370 DATA 65, 86, 69, 86	2110 DATA 111, 122, 122, 116	2850 DATA 213, 41, 216, 39
1380 DATA 69, 86, 73, 84	2120 DATA 122, 116, 132, 109	2860 DATA 209, 31, 204, 33
1390 DATA 73, 84, 73, 80	2130 DATA 132, 109, 141, 102	2870 DATA 204, 33, 200, 40
1400 DATA 32, 86, 26, 90	2140 DATA 17, 80, 18, 83	2880 DATA 200, 40, 195, 46
1410 DATA 26, 90, 23, 93	2150 DATA 16, 84, 14, 81	2890 DATA 195, 46, 198, 34
1420 DATA 23, 93, 23, 97	2160 DATA 111, 67, 117, 68	2900 DATA 198, 34, 198, 27
1430 DATA 23, 97, 25, 101	2170 DATA 110, 73, 118, 71	2910 DATA 198, 27, 198, 21
1440 DATA 25, 101, 29, 105	2180 DATA 118, 77, 127, 74	2920 DATA 191, 18, 187, 27
1450 DATA 29, 105, 31, 105	2190 DATA 127, 77, 120, 80	2930 DATA 187, 27, 184, 36
1460 DATA 31, 105, 34, 101	2200 DATA 119, 82, 128, 80	2940 DATA 184, 36, 183, 39
1470 DATA 34, 99, 41, 95	2210 DATA 131, 81, 125, 83	2950 DATA 183, 39, 180, 29
1480 DATA 41, 95, 48, 95	2220 DATA 125, 83, 119, 85	2960 DATA 180, 29, 177, 21
1490 DATA 48, 95, 50, 94	2230 DATA 119, 85, 118, 86	2970 DATA 177, 21, 176, 14
1500 DATA 59, 94, 51, 94	2240 DATA 104, 101, 114, 100	2980 DATA 169, 15, 167, 26
1510 DATA 60, 94, 68, 96	2250 DATA 114, 100, 123, 98	2990 DATA 167, 26, 167, 37
1520 DATA 68, 96, 75, 96	2260 DATA 123, 98, 132, 92	3000 DATA 167, 37, 165, 44
1530 DATA 75, 96, 82, 94	2270 DATA 132, 92, 135, 87	3010 DATA 164, 43, 163, 36
1540 DATA 82, 94, 89, 93	2280 DATA 135, 87, 134, 79	3020 DATA 163, 36, 160, 28
1550 DATA 89, 93, 92, 93	2290 DATA 134, 79, 131, 73	3030 DATA 160, 28, 157, 23
1560 DATA 92, 93, 98, 95	2300 DATA 131, 73, 126, 65	3040 DATA 152, 13, 158, 24
1570 DATA 91, 94, 94, 101	2310 DATA 133, 59, 136, 59	3050 DATA 141, 18, 141, 32
1580 DATA 94, 101, 97, 103	2320 DATA 136, 59, 134, 52	3060 DATA 141, 32, 141, 45
1590 DATA 97, 103, 101, 102	2330 DATA 134, 52, 127, 45	3070 DATA 141, 45, 144, 51
1600 DATA 101, 102, 104, 98	2340 DATA 127, 45, 121, 40	3080 DATA 144, 51, 137, 38
1610 DATA 104, 98, 105, 91	2350 DATA 121, 40, 118, 38	3090 DATA 137, 38, 133, 31
1620 DATA 105, 91, 102, 84	2360 DATA 118, 38, 110, 37	3100 DATA 133, 31, 129, 29
1630 DATA 102, 84, 94, 81	2370 DATA 110, 37, 106, 41	3110 DATA 194, 57, 191, 67
1640 DATA 94, 81, 87, 81	2380 DATA 106, 41, 101, 45	3120 DATA 191, 67, 197, 74
1650 DATA 95, 86, 95, 87	2390 DATA 106, 50, 99, 45	3130 DATA 197, 74, 208, 85
1660 DATA 99, 89, 99, 90	2400 DATA 99, 45, 91, 41	3140 DATA 208, 85, 219, 98
1670 DATA 100, 93, 100, 94	2410 DATA 96, 46, 98, 48	3150 DATA 219, 98, 221, 109
1680 DATA 95, 90, 95, 91	2420 DATA 100, 42, 110, 34	3160 DATA 221, 109, 223, 118
1690 DATA 32, 91, 32, 93	2430 DATA 95, 43, 103, 31	3170 DATA 223, 118, 232, 126
1700 DATA 26, 94, 26, 95	2440 DATA 96, 45, 97, 36	3180 DATA 232, 126, 242, 128
1710 DATA 29, 95, 29, 96	2450 DATA 97, 36, 100, 30	3190 DATA 242, 128, 249, 125
1720 DATA 13, 80, 11, 87	2460 DATA 100, 30, 104, 28	3200 DATA 249, 125, 254, 122
1730 DATA 11, 87, 11, 97	2470 DATA 113, 42, 117, 42	3210 DATA 253, 123, 255, 111
1740 DATA 11, 97, 15, 104	2480 DATA 115, 44, 119, 45	3220 DATA 255, 111, 254, 99
1750 DATA 15, 104, 20, 106	2490 DATA 117, 48, 124, 49	3230 DATA 254, 99, 248, 87
1760 DATA 20, 106, 28, 108	2500 DATA 125, 53, 130, 53	3240 DATA 248, 87, 240, 76
1770 DATA 28, 108, 37, 110	2510 DATA 128, 56, 133, 56	3250 DATA 240, 76, 229, 66
1780 DATA 37, 110, 46, 110	2520 DATA 140, 103, 142, 101	3260 DATA 229, 66, 218, 58
1790 DATA 46, 110, 59, 109	2530 DATA 139, 105, 141, 106	3270 DATA 217, 58, 205, 55
1800 DATA 12, 101, 6, 103	2540 DATA 141, 106, 145, 110	3280 DATA 205, 55, 197, 55
1810 DATA 6, 103, 2, 102	2550 DATA 145, 110, 151, 108	3290 DATA 197, 55, 194, 57
1820 DATA 2, 102, 0, 97	2560 DATA 151, 108, 178, 107	3300 DATA 196, 58, 206, 62
1830 DATA 0, 97, 1, 93	2570 DATA 178, 107, 184, 113	3310 DATA 206, 62, 217, 67
1840 DATA 1, 93, 3, 90	2580 DATA 184, 113, 190, 119	3320 DATA 217, 67, 229, 74
1850 DATA 3, 90, 5, 87	2590 DATA 190, 119, 200, 123	3330 DATA 229, 74, 241, 88
1860 DATA 5, 87, 7, 88	2600 DATA 200, 123, 211, 123	3340 DATA 241, 88, 247, 97
1870 DATA 7, 88, 11, 88	2610 DATA 211, 123, 217, 121	3350 DATA 247, 97, 250, 113
1880 DATA 92, 100, 81, 100	2620 DATA 217, 121, 223, 119	3360 DATA 250, 113, 250, 117
1890 DATA 72, 101, 80, 100	2630 DATA 213, 107, 215, 114	3370 DATA 250, 117, 240, 114
1900 DATA 70, 101, 64, 103	2640 DATA 212, 114, 211, 107	3380 DATA 240, 114, 231, 110
1910 DATA 64, 103, 59, 107	2650 DATA 201, 116, 199, 109	3390 DATA 225, 120, 230, 113
1920 DATA 59, 107, 56, 112	2660 DATA 197, 109, 198, 117	3400 DATA 230, 113, 231, 104
1930 DATA 56, 112, 57, 119	2670 DATA 196, 117, 193, 111	3410 DATA 231, 104, 228, 98
1940 DATA 57, 119, 60, 123	2680 DATA 188, 110, 186, 103	3420 DATA 228, 98, 220, 91
1950 DATA 60, 123, 64, 121	2690 DATA 183, 103, 183, 109	3430 DATA 220, 91, 214, 87
1960 DATA 73, 107, 69, 110	2700 DATA 117, 38, 129, 27	3440 DATA 214, 87, 211, 87

3450 DATA 215, 93, 222, 95
 3460 DATA 222, 95, 227, 102
 3470 DATA 227, 102, 227, 110
 3480 DATA 227, 110, 226, 115
 3490 DATA 226, 115, 223, 116
 3500 DATA 231, 117, 237, 119
 3510 DATA 237, 119, 244, 122
 3520 DATA 244, 122, 247, 125
 3530 DATA 231, 102, 235, 91
 3540 DATA 235, 91, 237, 84
 3550 DATA 232, 79, 231, 90
 3560 DATA 231, 90, 228, 97
 3570 DATA 225, 94, 226, 86
 3580 DATA 226, 86, 227, 81
 3590 DATA 230, 76, 228, 82
 3600 DATA 225, 74, 224, 84
 3610 DATA 224, 84, 223, 91
 3620 DATA 223, 91, 222, 92
 3630 DATA 220, 90, 221, 81
 3640 DATA 221, 81, 225, 71
 3650 DATA 218, 69, 217, 77
 3660 DATA 217, 77, 216, 84
 3670 DATA 216, 84, 214, 87
 3680 DATA 235, 69, 248, 72
 3690 DATA 248, 72, 255, 73
 3700 DATA 252, 96, 255, 96
 3710 DATA 246, 73, 248, 77
 3720 DATA 248, 77, 253, 74
 3730 DATA 45, 137, 47, 137
 3740 DATA 47, 137, 50, 140
 3750 DATA 50, 140, 51, 144
 3760 DATA 51, 144, 50, 150
 3770 DATA 50, 150, 47, 148
 3780 DATA 47, 148, 42, 144
 3790 DATA 42, 144, 37, 142
 3800 DATA 37, 142, 31, 143
 3810 DATA 31, 143, 29, 147
 3820 DATA 29, 147, 27, 155
 3830 DATA 27, 155, 29, 163
 3840 DATA 29, 163, 32, 166
 3850 DATA 32, 166, 37, 170
 3860 DATA 37, 170, 40, 169
 3870 DATA 40, 169, 42, 166
 3880 DATA 42, 166, 39, 163
 3890 DATA 39, 164, 37, 162
 3900 DATA 37, 163, 37, 160
 3910 DATA 37, 160, 40, 159
 3920 DATA 40, 159, 45, 158
 3930 DATA 45, 158, 51, 159
 3940 DATA 51, 159, 55, 161
 3950 DATA 55, 161, 56, 163
 3960 DATA 56, 163, 54, 166
 3970 DATA 54, 166, 53, 169
 3980 DATA 53, 169, 48, 171
 3990 DATA 48, 171, 43, 173
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 4020 DATA 28, 173, 22, 171
 4030 DATA 22, 171, 18, 168
 4040 DATA 18, 168, 15, 161
 4050 DATA 15, 161, 14, 154
 4060 DATA 14, 154, 15, 147
 4070 DATA 15, 147, 17, 142
 4080 DATA 17, 142, 23, 137
 4090 DATA 23, 137, 27, 134
 4100 DATA 27, 134, 32, 134
 4110 DATA 32, 134, 39, 135
 4120 DATA 39, 135, 44, 137
 4130 DATA 60, 154, 62, 152
 4140 DATA 62, 152, 67, 148
 4150 DATA 67, 148, 72, 149
 4160 DATA 72, 149, 79, 152
 4170 DATA 79, 152, 84, 155
 4180 DATA 84, 155, 84, 167

4190 DATA 84, 167, 87, 172
 4200 DATA 87, 172, 85, 177
 4210 DATA 85, 177, 80, 179
 4220 DATA 80, 179, 76, 178
 4230 DATA 76, 178, 75, 176
 4240 DATA 75, 176, 69, 176
 4250 DATA 69, 176, 66, 178
 4260 DATA 66, 178, 62, 177
 4270 DATA 62, 177, 59, 174
 4280 DATA 59, 174, 59, 169
 4290 DATA 59, 169, 63, 165
 4300 DATA 63, 165, 67, 161
 4310 DATA 67, 161, 73, 160
 4320 DATA 73, 160, 72, 155
 4330 DATA 72, 155, 69, 154
 4340 DATA 69, 154, 63, 161
 4350 DATA 63, 161, 60, 158
 4360 DATA 60, 158, 60, 154
 4370 DATA 71, 165, 73, 168
 4380 DATA 73, 168, 73, 172
 4390 DATA 73, 172, 70, 171
 4400 DATA 70, 171, 68, 170
 4410 DATA 68, 170, 70, 166
 4420 DATA 70, 166, 72, 166
 4430 DATA 92, 155, 98, 150
 4440 DATA 98, 150, 104, 149
 4450 DATA 104, 149, 106, 153
 4460 DATA 106, 153, 111, 149
 4470 DATA 111, 149, 115, 150
 4480 DATA 115, 150, 119, 153
 4490 DATA 119, 153, 119, 160
 4500 DATA 119, 160, 113, 161
 4510 DATA 113, 161, 108, 158
 4520 DATA 107, 159, 108, 170
 4530 DATA 108, 170, 111, 175
 4540 DATA 111, 175, 106, 179
 4550 DATA 106, 179, 99, 180
 4560 DATA 99, 180, 93, 177
 4570 DATA 93, 177, 94, 173
 4580 DATA 94, 173, 95, 167
 4590 DATA 95, 167, 95, 161
 4600 DATA 95, 161, 93, 154
 4610 DATA 121, 149, 122, 146
 4620 DATA 122, 146, 123, 142
 4630 DATA 123, 142, 128, 137
 4640 DATA 128, 137, 134, 135
 4650 DATA 134, 135, 139, 137
 4660 DATA 139, 137, 143, 143
 4670 DATA 143, 143, 139, 146
 4680 DATA 139, 146, 135, 142
 4690 DATA 135, 142, 131, 141
 4700 DATA 131, 141, 130, 145
 4710 DATA 130, 145, 134, 148
 4720 DATA 134, 148, 136, 148
 4730 DATA 136, 148, 136, 151
 4740 DATA 136, 151, 140, 152
 4750 DATA 140, 152, 140, 156
 4760 DATA 140, 156, 137, 158
 4770 DATA 137, 158, 138, 168
 4780 DATA 138, 168, 141, 171
 4790 DATA 141, 171, 140, 173
 4800 DATA 140, 173, 137, 175
 4810 DATA 137, 175, 132, 176
 4820 DATA 132, 176, 125, 177
 4830 DATA 125, 177, 122, 175
 4840 DATA 122, 175, 124, 172
 4850 DATA 124, 172, 126, 166
 4860 DATA 126, 166, 125, 160
 4870 DATA 125, 160, 122, 160
 4880 DATA 122, 160, 122, 154
 4890 DATA 122, 154, 125, 154
 4900 DATA 125, 154, 124, 152
 4910 DATA 124, 152, 121, 148
 4920 DATA 147, 142, 154, 141

4930 DATA 154, 141, 160, 138
 4940 DATA 160, 138, 157, 134
 4950 DATA 157, 134, 150, 135
 4960 DATA 150, 135, 146, 138
 4970 DATA 146, 138, 146, 140
 4980 DATA 146, 140, 147, 142
 4990 DATA 159, 146, 162, 168
 5000 DATA 162, 168, 162, 173
 5010 DATA 162, 173, 158, 175
 5020 DATA 158, 175, 152, 175
 5030 DATA 152, 175, 147, 173
 5040 DATA 147, 173, 147, 170
 5050 DATA 147, 170, 149, 161
 5060 DATA 149, 161, 147, 155
 5070 DATA 147, 155, 145, 150
 5080 DATA 145, 150, 152, 146
 5090 DATA 152, 146, 159, 146
 5100 DATA 189, 158, 174, 160
 5110 DATA 174, 160, 178, 165
 5120 DATA 177, 164, 179, 166
 5130 DATA 179, 166, 187, 164
 5140 DATA 187, 164, 190, 164
 5150 DATA 190, 164, 184, 171
 5160 DATA 184, 171, 176, 174
 5170 DATA 176, 174, 168, 171
 5180 DATA 168, 171, 165, 170
 5190 DATA 165, 170, 163, 163
 5200 DATA 163, 163, 164, 156
 5210 DATA 164, 156, 170, 146
 5220 DATA 170, 146, 180, 144
 5230 DATA 180, 144, 187, 148
 5240 DATA 187, 148, 190, 158
 5250 DATA 182, 153, 173, 154
 5260 DATA 174, 150, 174, 154
 5270 DATA 174, 149, 177, 148
 5280 DATA 177, 148, 180, 150
 5290 DATA 180, 150, 181, 153
 5300 DATA 206, 131, 207, 165
 5310 DATA 207, 165, 209, 167
 5320 DATA 209, 167, 209, 170
 5330 DATA 209, 170, 197, 170
 5340 DATA 197, 170, 192, 169
 5350 DATA 192, 169, 195, 163
 5360 DATA 195, 163, 195, 147
 5370 DATA 195, 147, 193, 140
 5380 DATA 193, 140, 189, 136
 5390 DATA 189, 136, 197, 131
 5400 DATA 197, 131, 207, 131
 5410 DATA 219, 141, 213, 148
 5420 DATA 213, 148, 211, 155
 5430 DATA 211, 155, 212, 163
 5440 DATA 212, 163, 215, 170
 5450 DATA 215, 170, 222, 171
 5460 DATA 222, 171, 229, 169
 5470 DATA 229, 169, 231, 168
 5480 DATA 232, 170, 241, 168
 5490 DATA 241, 168, 244, 166
 5500 DATA 244, 166, 241, 163
 5510 DATA 241, 163, 241, 162
 5520 DATA 241, 162, 240, 136
 5530 DATA 240, 136, 239, 132
 5540 DATA 239, 132, 232, 130
 5550 DATA 232, 130, 227, 132
 5560 DATA 227, 132, 226, 136
 5570 DATA 226, 136, 229, 139
 5580 DATA 229, 139, 229, 142
 5590 DATA 229, 142, 220, 141
 5600 DATA 223, 149, 223, 162
 5610 DATA 223, 162, 226, 164
 5620 DATA 226, 164, 230, 159
 5630 DATA 230, 159, 230, 148
 5640 DATA 230, 148, 227, 145
 5650 DATA 227, 145, 223, 150
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PLAYER ONE

ANDRONE			DOUBLE BACK (Tandy)			MONTE ZOOMERS (Computer Hut)			Alex Hartmann Gold Cst 4900		
A.Voutsis	Babinda	660440	Ian Reynolds	Prospect	351540	Mike Driscoll	Bowen	27650	R Boxall	LO/4850	
A.Oates	Macquarie	72270	highest grab		140870	MOON SHUTTLE (Data Soft)			ROMAN CHECKERS		
Jim Ramsden	Cabramatta	56855	The Caped Avenger	Roma	157670	David Thurbon	Canberra	27700	Chris Magle	Condobolin	62
			highest grab		63660	MR DIG			Richard Pankhurst	Rsvll	60
ASTRO BLAST (Mark Data)			DRACONIAN (Tom Mix)			Brendan Gay	Gold Cst	1200300	SAILOR MAN (Tom mix)		
Mark De Wit	Ipswich	91000	Mark De Wit	Ipswich	425900	Leigh Eames	Emerald	1132250	Bernard Florence	N.S.W.	647800
Wayne Kely	Ipswich	89230	Wayne Dunlop	Verribee	143300	MS GOBBLER (Spectral)			Hazel McGuinness	Coota	445100
Leath Muller	Townsville	82375	Wayne Kely	Ipswich	120750	Wayne Kely	Ipswich	13760	Michael Cowie	Coota	132900
ASTRO LANDER (CoCo Software)			DRAGON SLAYER (Tom Mix)			Paul Both	Tullamarine	19850	SCEPTER		
R Boxall		4250	Let Down	Gold Coast	77900	Alan Mansfield	Quoiba	8760	Ian Choat	O'Connell	Von in
ATOM (Tandy)			Danny Smith		63800	NINJA WARRIOR			7 min. 47 sec.		
Richard Baker	NSW round.2 - Rh		EZSKI (Chomasette)			Paul Both	Tullamarine	236300	Ken Uzzell	Roseville	Von in
David Thurbon	round.1 - xe		Wayne Kely	Ipswich	49274	Mark De Wit	Ipswich	51500	21 min. 51 sec.		
BAGITMAN			Chris Magle	Condobolin	19896	Paul Conroy	Brisbane	41500	SEA QUEST (Mark Data)		
Ken Dunlop	Verribee	227950	FIRECOPTER (Adventure Intl.)			OUTHOUSE (Comp Shack)			J Dougan & J Gans	Bris	165
Wayne Dunlop	Verribee	214990	R Boxall		69152	Richard Pankhurst	Rsvll	8126	J Holt	Glen Iris	150
BEAM RIDER (Spectral)			FEBOTS REVENGE			PEANUT BUTTER PANIC			Darren Reed	Watsonia	100
Kieran Power	Duffy	1207360	Wayne Kely	Ipswich	5150	Melissa Blackhall	NSW	152	SHARK (Computerware)		
Tony Evans	Bowen	483060	Tony Evans	Bowen	4750	Melissa Gransden	NSW	152	D.Vostsis	Jindallie	210000
David Thurbon	Canberra	83530	Richard Pankhurst	Rsvll	1050	PENGON			Alan Mansfield	Quoiba	90000
BLOCKHEAD (Computerware)			FLYBY (Chomasette)			Chris Magle	Condobolin	36610	C.Voutsis	Babinda	52000
Paul Harris	Minto	234675	David Coleman	Yeronga	32000	Russell Lucas	Kyabram	140	SHENANIGANS (Mark Data)		
Grant Menner	Parkwood	67550	FROGGER (Tandy)			PINBALL (Tandy)			J Gans	Bris	112
Michael Horn	Gold Cst	29825	Damien Ryan	Riverhills	44495	Ian Choat	O'Connell	174950	Carla Miller	Burwood V	148
BREWMASTER (Tom Mix)			Jason Ryan	Riverhills	32885	PIPE LINE (Rainbow)			SHOOTING GALLERY (Tandy)		
Hazel McGuinness	NSW	99075	Patrick Van Brakel	Prkvl122055		Wayne Kely	Ipswich	1072	John Bollans	Perth	67320
Wayne Dunlop	Verribee	95600	FROG TREK			Leath Muller	Townsville	978	C Hinton & Q Hill	NSW	54310
Desmond Rae	Mt Isa	45000	S.Oates	Maquarie	17450	A.Oates	Macquarie	811	Sharon Avery	Woy Woy	52700
BUST OUT (Tandy)			A.Oates	Maquarie	12580	S.Oates	Macquarie	454	SKILLING (Tandy)		
The Caped Avenger	Roma	3646	Darren Reed	Watsonia	9770	PLANET INVASION (Spectral)			Desmond Rae	Mt Isa	0:12:00
A.Voutsis	Babinda		GALACTIC ATTACK (Tandy)			Lachlan Mead	Bomaderry	90450	Paul Conroy	Brisbane	0:32:49
	20 Balls	7634	Greg & Ian Choat	O'Connell	129680	A.Voutsis	Babinda	85000	Jack Rae	Mt Isa	0:36:00
Richard Pankhurst	Roseville		Ian Choat	O'Connell	42160	David Coleman	Yeronga	48500	SKRAMBLE (Tom Mix)		
	20 Balls	2490	A.Voutsis	Babinda	36240	POLARIS (Tandy)			Stephen Price	Brisbane	101490
BUZZARD BAIT (Tom Mix)			GALAX ATTACK (Spectral)			Chris Magle	Condobolin	55760	Ian Choat	O'Connell	90040
Unknown		168500	Wayne Kely	Ipswich	139400	Neil Prince	Forbes	13040	Michael Elliott	Brisbane	72920
Desmond Rae	Mt Isa	100000	Steven Penzo	Rye	138349	POLTERGEIST (Tandy)			SPACE ASSULT (Tandy)		
Lynne Barrett	Muttama	99250	A.Oates	Macquarie	48550	Bernard Florence	Croydon	4955	Paul Harris	Minto	40290
CALIXTO (Mark Data)			S.Oates	Macquarie	28950	Unknown		4955	Nick Cooper		16949
J Gans	Bris	162	GHOST GOBBLER (Spectral)			Michael Elliot	Brisbane	4895	Darren Reed	Watsonia	10430
CANYON CLIMBER (Tandy)			Stuart Sanders		118510	POOYAN (DataSoft)			SPACE RACE (Spectral)		
Groucho	Roma	12000000	Ian Choat	O'Connell	L10/94640	Michael Popp	Toowoomba	1400000	Stephen Price	Brisbane	51375
Michelle Avery	Woy Woy	882800	A.Voutsis	Babinda	84800	Unknown		365400	Michael Horn	Gold Cst	48450
CASHMAN (Comp Shack) Wayne			A.Oates	Macquarie	L15 9440	POPCORN (Tandy)			Brendan Gay	Gold Cst	37675
Kely	Ipswich	17750	ICEBLOCK			Chris Magle	Condobolin	290000	SPACE-SENTRY		
Leath Muller	Townsville	13350	Richard Pankhurst	Rsvll	58610	Allan Rae	Mt Isa	56770	Paul Harris	Minto	2067300
Richard Pankhurst	Rsvll	6640	JUNIOR'S REVENGE (ComputerWare)			PROJECT NEBULA (Tandy)			SPACE SHUTTLE (Tom Mix)		
CAVERN COPTER (Rainbow)			Andrew Law	Sunbury	325100	Paul Simpson		540	Lachlan Mead	Bomaderry	515
Richard Pankhurst	Rsvll	1509	KATAPILLAR ATTACK (Tom Mix)			Michael Horn	Gold Coast	410	Tony Evans	Bowen	491
CHOPPERSTRIKE (Comp Shack)			Chris Magle	Condobolin	12681	Ken Uzzell	Roseville	255	Richard Pankhurst	Rsvll	
Ken Uzzell	Roseville	25300	Stephen Price	Brisbane	9457	PROTECTOR (Tom Mix)			344		
CLOWNS (Tandy)			Steven Marks	Yanco	9412	Andrew Law	Sunbury	165322	SPEED RACER (Spectral)		
A.Voutsis	Babinda	83160	KOMET KAZE (Color Quest)			Steven Bullock	Roseville	1589	Leath Muller	Townsville	93840
Paul Harris	Minto	30420	Ken Uzzell	Roseville	14000	PYRAMID (Tandy)			Michael Horn	Gold Cst	93520
Darren Reed	Watsonia	20950	LANCER (Spectral)			Simon Cox	Dubbo	220	SR-71-281 (Tom Mix)		
COLORPEDE			Wayne Kely	Ipswich	572700	Darren Reed	Watsonia	220	Simon Cox	Dubbo	
Wayne Dunlop	Verribee	567201	Paul Simpson	Miles	201000	J Gans	Bris	200	1 mile from Target		
David Abbey	Verribee	206534	LASERWORM (Rainbow)			QIXS (Spectral)			STARFIRE (Intellectronics)		
CRYSTAL CASTLES			Nick Cooper		58745	Desmond Rea	Mt Isa	200347	Andrew Law	Sunbury	65000
Unknown		534297	Leath Muller	Townsville	30862	Hazel McGuinness	Coota	97164	STELLAR LIFELINE (Tandy)		
DEFENSE (Spectral)			Glynn Catherall	Gld Cst	30366	Lynne Barrett	Muttama	56172	Paul Harris	Minto	42110
Paul Harris	Minto	47255	LEMANS			QUASER			SUB HUNT		
Michael Horn	Gold Cst	43650	A.Voutsis	Babinda	55 Secs	Richard Pankhurst	Rsvll	87	Warren Macintosh	Rsvll	5135
Richard Pankhurst	Rsvll	31730	LUNAR ROVER PATROL (Spectral)			RAAKATU (Tandy)			SANDS OF EGYPT (Tandy)		
DEMON ASSULT (Aardvack)			Wayne Kely	Ipswich	L-Exp84900	Mike Thayer	Toowoomba	50	Richard Pankhurst	Rsvll	
Paul Harris	Minto	2076600	L Vanjour & Q Hill	NSW	75300	Simon Cox	Dubbo	50	127 Turns		
Richard Pankhurst	Rsvll	31250	Wayne Dunlop	Verribee	60750	Richard Pankhurst	Rsvll	50	TEMPLE OF ROM (Tandy)		
DEMON SHEED (Comp Shack) Ken			MEGABUG (Tandy)			RADIO BALL (Tandy)			A.Oates	Macquarie	484800
Uzzell	Rsvll	11350	Lori Lehane	Penrith	19540	Hazel McGuinness	Coota	1300300	Wayne Kely	Ipswich	370100
DEVIL ASSULT (Microdeal)			A.Voutsis	Babinda	10294	Paul Harris	Minto	1004950	Hazel McGuinness	Coota	165400
Hazel McGuinness	Coota	173900	Brendan Gay	Gold Coast	7181	Michael Cowie	Coota	673910	S.Oates	Macquarie	162400
DEVIOUS (Spectral)			MICROBES (Tandy)			Karen Cowie	Coota	617450	Michael Cowie	Coota	100900
R Boxall		28820	A & S Oates	Macquarie	212760	REACTOIDS (Tandy)			TIME BANDIT (Michton)		
DONKEY KING (Tom Mix)			Andrew Yillie	Somerser	185550	Georgia Voutsis	Babinda	1200000	Henry Roames	Millicent	289920
A.Voutsis	Babinda	315000	Paul Harris	Somerser	140700	RETURN OF THE JET-I			Hazel McGuinness	Coota	141170
Stuart Sanders	Mt Rwhrn	113100	MONSTER MAZE (Tandy)			Bernard Florence	N.S.W.	272167	Lachlan Mead	Bomaderry	104670
DOODLE BUG			Ian Reynolds	Prospect	250840	Lloyd Golato	Gold Coast	152996	TOUCHSTONE		
Wayne Kely	Ipswich	425970	Neil Prince	Forbes	8410	ROBOT BATTLE (Spectral)			Paul Conroy	Brisbane	69160
Leath Muller	Townsville	124990				Michael Horn	Gold Cst	9300	Mark Conroy	Brisbane	61880
Russell Lucas	Kyabram	51910							Barnabas Hood	Brisbane	60640

TRAPFALL (Spectral)
 A. Gates Macquarie 113214
 Chris Wagle Condobolin 100244
 Paul Harris Minto 62830
 TUI (Aardvark)
 Paul Both Tilarine 148520
 Keith Savage 99430
 TUT'S TOMB (Mark Data)
 Tony Evans Bowen 53280
 Desmond Rae Mt Isa 30000
 Barry Tomkinson Tregear 29840
 VIKING
 Ken Uzzell Rsvll

King in 16 years
 WHIRLYBIRD RUN (Spectral)
 Lachlan Mead Bomaderry 94200
 Eddie Driscoll Bowen 81300
 Leath Muller Townsville 61800
 WILDCATTING (Image Producers)
 Colleen James Gold Cst 39169
 R Boxall 34692
 Michael Horn Gold Cst 34151
 ZAKSUND (Elite)
 Leath Muller Townsville 412850
 Nick Cooper 136050
 Jeff Vetzig 97100
 ZAXION (Tandy)
 Russell Scott Traralgon 144100
 Mike Fitzpatrick S.A. 116700
 The Caped Avenger Roma 128600
 ZONK (Australian Rainbow)
 Mark De Wit Ipswich 17900
 David Aubrey 15900
 Frank Draga S.A. 13800

NICO GAMES

BREAKOUT
 David Hill Oakville 6104
 Justin Westley Dapto 968
 BOMB-RUN
 David Hill Oakville 1300
 Juliette Hill Oakville 400
 CATCH
 David Hill Oakville L4 10
 COMPUTER CRICKET
 David Hill Oakville 162
 COPS 'N ROBBERIES
 David Hill Oakville 9110
 DEMON'S DEFIANCE II
 David Hill Oakville L7 9960
 EGGS
 David Hill Oakville 5455
 Justin Westley Dapto 1060
 FIRE
 David Hill Oakville 21
 FLIK
 David Hill Oakville 1290
 MAZET
 David Hill Oakville 2571
 MISSILE
 Juliette Hill Oakville 30
 David Hill Oakville 70
 Jeanette Hill Oakville 50
 SKYBOMB
 David Hill Oakville 2574636
 SPACE ASSAULT
 David Hill Oakville 2295
 WORM CHASE
 David Hill Carina 123270
 Justin Westley Dapto 3990
 Juliette Hill Oakville 3960

T1000 GAMES

DEMON ATTACK (Tandy)
 Jenny Dutton Carina 1120

(Note: Most non-Tandy games are available from the Computer Hut in Bowen, Qld, or their agents).

RANDOM

By Mal McLaughlan

EDUCATIONAL
 16K ECB

RANDOM IS A very short Basic training or fun program. If we write a "0" on one side of a disk and a "1" on the other side, then toss the disk in the air, it will come down with either a "0" or a "1" on the uppermost side.

Let's keep throwing it up and write down the resultant "0" or "1". For example, the results may be 0, 0, 1, 0, 1. The percentage of "0"'s is 60% and of "1"'s 40%.

If we like perfection in everything, we would say that because there is an equal chance of either a "0" or a "1", there should be a 50% chance of each.

The fact is of course that in small numbers of throws the results are seldom exactly as we think they should be.

The same applies to the "random" function on our computer. If we type in:

```
10 PRINT RND(10);:GOTO10
```

... we will quickly see that each digit is not getting equal mention on the screen. However, the longer the program runs the more the inequalities even out.

If we were silly enough to throw our disk up, say 1000 times, the percentage of "0"'s to "1"'s should be much closer to 50% than the 60/40 ratio we had in our small example above.

To make this point the easy way, this little program randomizes two digits as many times as you wish and prints the percentage of one of them to the total number of throws. Note that the percentage usually starts well away from 50%, then gradually creeps closer to 50% as the number of throws increases.

So in front of your eyes you can see the random function of your computer in action with an analysis of the result to illustrate an important concept.

If you are a maths "whiz" you will know that if there are an infinite number of "throws" that the percentage of one digit to the total number of throws will be exactly 50%.

The Listing:

```
1 *****RANDOM*****
**BY MAL MCLAUCHLAN,11HUNTER ST*
*****BOONAH. Q.4310*****
*****DEC.'86*****
2 GOTO 10
3 SAVE"10:3":END'2
10 CLS
20 A=0:B=0
30 X=RND(2)
40 IF X=1 THEN A=A+1:PRINT@132,"
NO.OF HEADS =" ;A
50 IF X=2 THEN B=B+1:PRINT@196,"
NO.OF TAILS =" ;B
55 PRINT@68,"NO.OF THROWS =" ;A+B
60 CTR=CTR+1
70 PRINT@352,"PERCENTAGE OF HEAD
S="A/CTR*100
80 PRINT@418,"(PERFECTION IS 50%
)"
90 GOTO30
```

⊕

HUH?

By Christopher Dent

GRAPHICS
 16K ECB

IMPOSSIBLE OBJECT is a very short graphics picture depicting an optical illusion.

So ... how many pages? Two or three?

The Listing:

```
0 GOTO10
3 SAVE"70B:3":END'5
10 REM IMPOSSIBLE OBJECT
BY CHRISTOPHER DENT
20 PHODE4:SCREEN1,1:FCLS:DRAW'BN
103,40D100R40U100NR10D90Q10BN113
,40D90R20U90BL10D80Q10R10R10":FO
RA=1703:CIRCLE(86*A*20,38),6,,.3
: NEXT
30 GOTO30
```

⊕

CLOSE ENCOUNTERS

by Laurie O'Shea

I've been interested in several recent articles on the use of computer - related technology with the disabled, one article sounded a warning to which we can give careful thought.

The first of these areas of interest has been the success of a self-employed computer engineer who has devoted all of his spare time to help paraplegics to become self-sufficient.

John Pritchard has a son, Evan, 22 who became a paraplegic two and a half years ago as a result of a motorcycle accident. Mr Pritchard has said "pushing a tricycle, standing, even walking, are not beyond the realms of technical practicability."

He has devised a computer driven, electrical stimulation system to return use to paralyzed limbs. This has aroused great interest among doctors, scientist, electronics engineers and those organisations working with the disabled in SA.

On Thursday October 1, Evan Pritchard pushed the pedals of an exercise bike to the amazement of delegates at a seminar on spinal cord injuries held in the Magill Campus of the A College of Advanced Education.

Mr Pritchard said "The concept is that muscles over which a person has lost control can be made to contract by electrical stimuli from electrodes applied to overlying skin - either to the nerve or the muscle itself."

This process is known as functional electrical stimulation and can restore strength and endurance in muscles. This concept is already in use in heart pacemakers which stimulate failing heart action in certain forms of heart disease.

At the same seminar, Mr Pritchard attached his electrodes to Debbie, 23, a quadriplegic, who smiled broadly as one of her arms, both of which are normally paralysed, move up and down in response to the functional electrical stimulation.

This is an amazing breakthrough which really deserves success. And the wonderful thing it has like other developments been achieved by an individual involved with computers motivated by concern.

There is a great deal that we individuals involved in computing can do for the community by developing ideas to help the disabled. Car accidents alone are adding hundreds of paraplegic and quadriplegic cases to the community each year, and there are others from sporting and industrial accidents. To that we have to add those born disabled.

Mr Pritchard and others are seeking research funds to develop the concept where it is possible to make paraplegics walk.

In their submission they point out "There is no doubt that what is proposed is practical - the long term objective of using functional electrical stimulation with paraplegics is independent walking, but on the way to this many practical benefits will accrue to paraplegics, quadriplegics and other groups."

Mr Pritchard said the ability to walk or grasp an object is second nature to most people. But for individuals whose nerves have been damaged such simple actions are cruelly impossible.

I've always maintained that the greatest contribution that computers had to offer the community is in the areas of helping the disabled leading more rewarding lives and improve their quality of life.

Anyone interested in this project or are able to offer some practical help should contact Dr G.R.Potter, at the Adelaide Children's Hospital on (08) 267-4999. Dr Potter is senior orthopedic surgery at the ACH and is working with Mr Pritchard on the project.

On the other side of the coin is an article in the magazine of the Commission for the Future, Issue no 6, August 1987, entitled "Of miracles, praise and anger - THE BIONIC EAR". by deaf writer Michael Uniacke.

This article question the value of the Cochlear Implant, or Bionic Ear, developed in Australia by a team lead by Professor Graeme Clark. The Australian Bionic Ear is a world leader with over 66% of the market. It was developed at the University of Melbourne.

Professor Clark in announcing a \$1.75 million grant to the project by the US Government was very enthusiastic about its future. An American expert has said the aim of the project is "to eradicate deafness - in the way that diseases such as small pox had been controlled."

Peter Howson ex Chairperson of Victoria's Deafness Foundation has predicted that because of a number of technological advances "it could well be in 40 years time there will not be an adult deaf community in Victoria as we know it today."

All this enthusiasm and the tendency to refer to the recipients as "patients" has aroused the ire of the deaf community who feel they're being pushed into accepting an expensive technological development which they are not all yet sure they need.

Added to that is their anger at being labelled as having a disease and being a social problem. We ought to look at the human interface to communication with these with disabilities.

Firstly we must get away from the labeled "disease". You can't "catch" deafness, dyslexia or retardation. Many people still believe this. These disabilities are the result of genetical faults, accidents or illnesses which damage essential systems in the body. They have the same feelings, joys, hopes and fears as all of us. We ought to keep that in mind.

Perhaps before I go on I'll briefly explain the Bionic Ear (Cochlear Implant) The cochlear in the inner ear is like a snail's shell. It contains 30,000 hair cells, each of which is "tuned" to a particular frequency of sound. The ear drum and the tiny bones of the middle ear transmit vibrations which are converted from mechanical energy to electrical energy and transmitted to the brain along the auditory nerve.

In nerve deafness the hair cells in the cochlear are damaged or missing. The Bionic Ear attempts to replace these cells by the insertion of tiny platinum electrodes which stimulate the nerve fibres.

The device consists of a speech processor (worn outside the body) a transmitter, a control box ('receiver stimulator') and an electrode array. The receiver stimulator is implanted into the mastoid bone just behind the ear by surgery and the electrode array is wound into the cochlear.

How does it work? The Speech processor picks up the sound and by a small but powerful computer processes it, and sends it out the transmitter placed on the head and located over or near the implanted receiver stimulator. Held in place by a headset, the transmitter sends spirals through the skin to the receiver stimulator and hence to the cochlear.

Does it work? Researchers claim improved communication is generally the result for those who receive implants.

Depending on the circumstances of the hearing loss before the implant, it is claimed that a bionic ear can lead to improved lip-reading, greater speech comprehension, and better perception of environmental sounds.

Why the objections? The deaf community is made up of people who are born deaf (or become deaf at an early age), who use Auslan (Australian Sign Language), who identify themselves as being deaf, and who participate in activities within their community. Together they form a cultural group which has a language, theatrical groups, a highly developed sports network and many other things. Probably between ten and twenty thousand people are involved.

We must distinguish between them and people who become deaf later in life, they may prefer to be called "hard of hearing".

Michael Uniake says that for him, being deaf was a major factor in becoming a writer. Unable to hear television as a child, he turned to reading books, and then to writing. His writing led him to question decisions made on behalf of deaf

people, questions such as "are the people for whom the technology happy with the directions of research?"

He says that the deaf community has several objections to the bionic ear. A very common cause of anger is that it promotes the idea that to be deaf is to be sick. This has been indicated quite strongly in newspaper articles hailing the new technological breakthrough.

Michael points out people overseas and Australia who slam the idea of the bionic ear. He also quotes a deaf since birth man John Lovelt who has received accolades and honours for his work for the deaf community. Lovelt says he has met several people who have had the implant but don't consider it worth the pain and suffering. One woman who can now hear birds singing but still doesn't consider the bionic ear to be worth the pain.

The attitude of the deaf people towards the cochlear implant is described as one of anger and opposition.

Michael quotes Breda Carty, herself deaf and a worker for the deaf community. "I think it is a gut reaction to the implied lack of acceptance of deafness - the wish to change deaf people into hearing people" she says. "So many of these deaf people find their great satisfaction, enjoyment and support through their identity as deaf people. They feel as though others want to take away their identity, and there is a lot of anger about that."

Perhaps we can take the point and become more sensitive in our enthusiasm for new technology. Also let's avoid the bizarre future of people with

disabilities clanking around the community with "black boxes", antennae wires and flashing lights to please our vanity of the progress of technology. Let's be caring, sensitive and keep our minds open. Let's listen to the disabled with their hopes and fears about this new technology.

But let's not forget the good points. If anyone remembers the smile of little Pia Jeffrey deaf since birth when she got her bionic ear and "heard" her mother's voice for the first time in her life.

Her mother said "At first she was a bit shy because she was overwhelmed by so many sounds. But now she runs around the house listening to the toilet flush and people having a shower."

"We gave her some birthday presents this week and she spent hours tearing up the paper - she seems to love the sound. The change in her in just two days has been remarkable."

"She is beginning to recognise when her voice is too loud instead of just squawking her head off", said Mrs Jeffrey.

There are so many joys in life with sound - the chirping of birds, beautiful music, running water, the rustle of the wind. We won't be able to give them all to the deaf - not yet anyway - but let's keep on trying. But we must also be very sensitive of how we communicate to those who need such devices. They are also sensitive human beings with needs for acceptance and dignity.

Lets do it properly, but let's do it anyway.

◆

BORDER — AN UPDATE

by
Harry Hoffmann

COCO 3 + PRINTER APPLICATION

TODAY I AM submitting another update. if you have my program, "border", from the August edition of Softgold Magazine (page 21), then this is for you.

This upgrade prints a complete border around a whole page, provided you use A4 sized-paper.

If you use different length of paper, you may have to change

the "33" in Line 2005 to suit your paper.

When you use single sheet paper (as I do), you will have to insert a second sheet of paper about half way through the printing to avoid the printer from going "off-line" once the paper passes the "paper empty" sensor.

If you are likely to forget this, you can insert' this following line into the program:

```
2075 IFY=20THENSOUND200,100:EXEC
44539
```

This will alert you and stop execution. Then insert the paper and press any key to continue.

Remember not to turn the paperfeed knob. Let the printer pull the paper in!

If you have any problems with the program, please don't hesitate to contact me. Have fun.

The Listing:

```
1095 GOSUB1100:GOTO1235
1232 RETURN
1235 GOSUB2000
1236 GOSUB1100
1985
1990 '** PRINT SIDES OF PAGE **
1995
2000 ES=INT((H*15)/2):PRINT#-2,C
HR$(13);
2005 FORY=1TO33:'* PRINT SIDES *
2006 FORK=1TOH
2010 FORX=1TOH
2020 PRINT#-2,CHR$(F(K,X));:NEXT
X
2030 PRINT#-2,STRING$(ES,128);ST
RINGS(ES,128);
2040 FORX=1TOH
2050 PRINT#-2,CHR$(F(K,X));:NEXT
X
2060 PRINT#-2,CHR$(13);
2070 NEXTK
2080 NEXTY
2090 RETURN
```

◆

Cont. from p 20

```

410 PRINT#-2,CHR$(27);CHR$(14)
415 '**BOTTOM BLOCK**
420 PRINT#-2,TAB(1)CHR$(28);CHR$(37);CHR$(42)
425 PRINT#-2,TAB(1)CHR$(28);CHR$(10);CHR$(42);
429 '**ELONGATED OFF,CONDENSED O N & PRINT MESSAGE**
430 PRINT#-2,CHR$(27);CHR$(15);PRINT#-2,CHR$(27);CHR$(20);PRINT#-2,TAB(9);"TEMPERATURES ROUNDED OFF TO NEAREST 5 DEGS. FOR CONVENIENCE";
435 '**CONDENSED OFF,ELONGATED O
  
```

```

***
440 PRINT#-2,CHR$(27);CHR$(19);PRINT#-2,CHR$(27);CHR$(14);PRINT#-2,TAB(38);CHR$(28);CHR$(9);CHR$(42)
445 PRINT#-2,TAB(1);CHR$(28);CHR$(37);CHR$(42);PRINT#-2:PRINT#-2
450 '**ELONGATION OFF**
455 PRINT#-2,CHR$(27);CHR$(15)
998 END
999 '**SEPARATING LINES**
1000 PRINT#-2,TAB(13);CHR$(28);CHR$(54);CHR$(42)
1005 RETURN
  
```

Cont. from p 43



```

27,R,2):NEXTR:SET(26,18,2):FORR=18T022:SET(38,R,2):NEXTR
9031 FORR=29T031:SET(R,18,2):NEXTR:FORR=18T022:SET(33,R,2):NEXTR:FORR=18T022:SET(35,R,2):NEXTR:SET(35,22,2)
9032 SET(34,22,2):FORR=37T029:SET(R,18,2):NEXTR:FORR=18T022:SET(37,R,2):NEXTR:FORR=21T022:SET(39,R,2):NEXTR:SET(39,19,2)
9033 SET(38,20,2):FORR=18T022:SET(43,R,2):NEXTR:FORR=18T020:SET(41,R,2):NEXTR:FORR=41T043:SET(R,22,2):NEXTR:SET(42,20,2)
9034 SET(38,18,2):SET(39,18,2):FORR=18T022:SET(49,R,2):SET(51,R,2):NEXTR:FORR=48T052:SET(R,18,2):SET(R,22,2):NEXTR
9035 SOUND250,10
9036 GOTO9
10000 PRINT0;"
  
```

" RETURN

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"I say, Old Chap, Have You Heard the Latest?"



Well, what a shock to the system this month was!! Letters! I had them coming out of my ears. Thank you all for writing in and doing your stuff! It was great.

Unfortunately, because it's nearly Christmas and we've spent a lot of time making disks and tapes as well as getting the database ready for the Christmas orders, we haven't had time to compile all letters to print them in the mag.

I have replied to 99% of your letters, but if you haven't received a reply yet... it will be in the mail soon!

I must put in a thank you to John Carmichael for sending in his little bits over the last two months - please keep it up! That's what I need.

In this month's article about MS-DOS, John sent in some information which helped me with some ideas... Thanks John.

Unfortunately, we lost our little 1400LT, which we were all hoping to have longer. What a great little machine it proved to be! Tandy decided that they had better use for it than us!

It ran our Viatel updating program for us (and a lot quicker than Gertie, I might add!); played games on it; Graham wrote last month's clubroom whilst he was in Brisbane and overall it proved to be a great help to us.

The 1400LT comes standard with 768K of memory, two 3 1/2" 720K disk drives, battery back up for 4 hours, super twist 320x200 LCD display and dual clock speed of 4.17 or 7.16Mhz. PLUS it has a built in RS232, a port for an RGB monitor and one for an external disk drive.

Now that might all be baloney to you, but compare that to your standard Tandy 1000 which comes with only one 5 1/4" disk drive, 128K memory and only 4.17Mhz clock speed AND the T1000's not portable!

There was only one problem, when we received the little beauty we didn't have an external 5 1/4" drive to plug into the computer. All our software is on 5 1/4" disk.

So we connected the two computers together, so that they could talk to each other! Not so easy... Gertie had a 25 pin RS232 plug, however the 1400 only had a 9 pin.

After trying nearly every combination of cable, we gave up! We thought we solved the problem when we found that Graham had plugged the RS232 cable to the RGBI port (because the plug fitted)!

Eventually, we decided to use the telephone and two modems. The cables were

fitted to the two computers and modems, and since we have a PABX, we found the next easy!

Using the public domain program PROCOMM, which is a very good communications program I might add, we had the two computers dialing up each other and transferring Gertie's Viatel files.

Thank God we had 1200/1200 baud modems! It

only took 59 minutes to transfer a 330K file! Imagine standing around for 4 hours if we had to use 300/300 baud!

I had a visitor come in this month, who showed me some public domain software for the IBM available from Interface Publications (Aust) Pty Ltd. CHIWRITER, one of the programs he showed me was excellent!

CHIWRITER is another word processor. But this one allows you to have 10 different fonts, which are displayed on the screen as you are typing, instead of your normal word processor having funny characters depicting the different fonts. It even allows you to draw mathematical equations and diagrams on the screen. Apart from the public domain message stopping you from doing your work and which appears about every 10 minutes, I think it is a top program.

GOLDDISK number 4 is finished and selling well! I've had a few people ring up and ask "What's the Golddisk?"

Golddisk has the IBM PC compatible programs that have appeared in this magazine from time to time. Any program I receive from you will go onto a Golddisk, as well as in Softgold magazine.

Golddisk #1 has programs from December, 1985 to May, 1986.

Golddisk #2 has programs from June, 1986 to October, 1986

Golddisk #3 has programs from November, 1986 to February, 1987

and Golddisk #4 has programs from February, 1987 to November, 1987.

In this month's magazine, there is a printout of all the programs on each disk and the page and date they appeared in Softgold. The first two digits are the page number, then the month and finally the year it was printed.

All these magazines are still available from us. If any back copies are required, send the order form on page 64 and state which ones you would like.

Older magazines are discounted!

Downloads will be the next priority on Viatel after Sanctuary Cove has gone up, so

Continued next page

BASIC CONTROL CODES

While you are editing or programing something in BASIC it may be handy to remember these CTRL codes. They may make life a little easier.

A - ????
B - Back word by word
C - Break
D - ????
E - Same as CTRL END (clears to the end of the line.)
F - Forward word by word
G - ????
H - Back one space

W - Delete word by word
X - Place on line number and get preceding line in program
Y - Place on line number and get next line in program
Z - Clear to end of screen
Right Arrow - Forward word by word.
Left Arrow - Back word by word.

I - ????
J - Down one line
K - Home
L - Clear screen
M - Enter
N - Got to end
O - ????
P - Turn on printer
Q - ????
R - Same as insert
S - Pause
T - Toggles the menu of the function keys on line 24.
U - Same as ESC (delete line)
V - ????

Continued from previous page

I'll need some of your software to put there! But just a word of warning, we can't put anything in the magazine or on Viatel unless it is your OWN work!

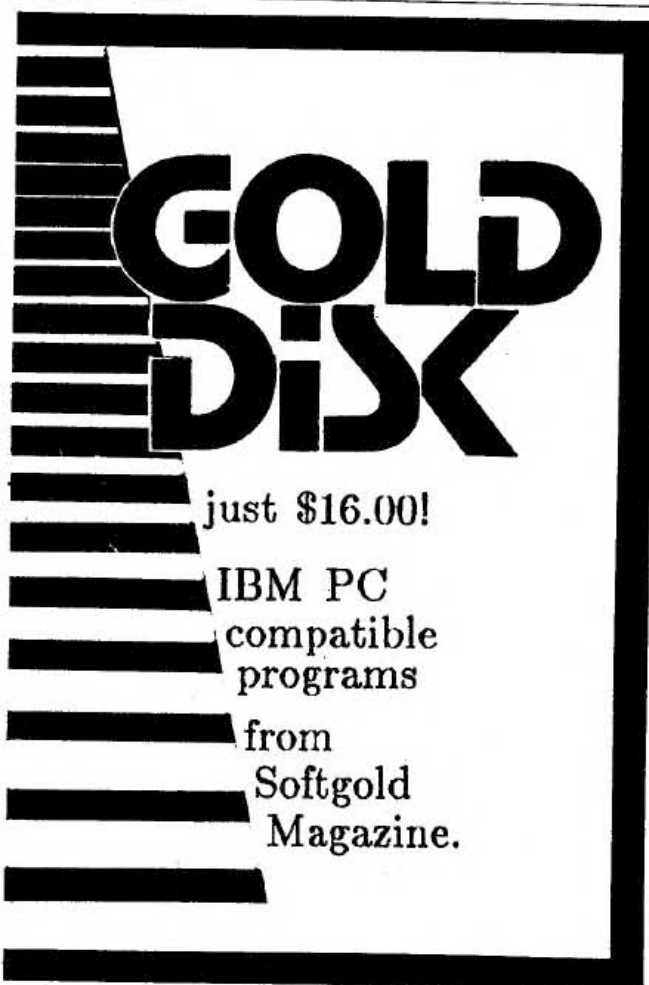
Anything you've got that you'd like to share with anyone please send it in so we can use it for the downloads. (It will also be published in the magazine.)

OH, and to make it clearer, any submissions for the magazine, please send them to the:

SUBMISSIONS EDITOR,
GOLDSOFT PTY LTD,
FREEPOST 5,
PO BOX 1742,
SOUTHPORT, QLD 4215.

Anything you send will be kept up to 3 months (just in case there are problems etc) and then returned to you with a month added to your subscription to this magazine AND a free disk!

*Happy
Holidays*
Dev



**GOLD
DISK**

just \$16.00!

IBM PC
compatible
programs

from
Softgold
Magazine.

INPUT



By Deon George

This is a handy little routine which will make INPUTs a little neater!

Whenever you are prompting for a data input, instead of using the normal INPUT A\$ use a statement like the one below:

```
WORDLEN%=+10:GOSUB 10000
```

where WORDLEN will have the tell the routine how many characters to input. (If you

have a positive WORDLEN% then you can input alphanumeric data. If you have a negative WORDLEN% you can only input numbers.)

If you use a WORDLEN% of +1 or -1 then the routine will RETURN to the program when the button key is pressed. Otherwise the routine will end with a press of the <ENTER> key.

The result will be in WORD\$.

The Listing:

```
10000 REM ***** Input Routine *****
10001 WORD$="":LETTER$=INKEY$:CURSOR$=CHR$(95)+CHR$(29):WORDLEN%=0:WORDSIGN=0:
CURSOFF$=CHR$(254)+CHR$(29):WORDDOT=0:IF LENGTH%=0 THEN LENGTH%=1
10002 PRINT STRING$(ABS(LENGTH%),254);STRING$(ABS(LENGTH%),29);
10003 PRINT CURSOR$;:FOR W%=1 TO 25:LETTER$=INKEY$:IF LETTER$<>"" THEN 10004
ELSE NEXT W%:PRINT CURSOFF$;:FOR W%=1 TO 25:LETTER$=INKEY$:IF LETTER$<>""
THEN 10004 ELSE NEXT W%:GOTO 10003
10004 PRINT CURSOR$;:IF ABS(LENGTH%)=WORDLEN% THEN 10008 ELSE IF LENGTH%>0 AND
LETTER$>=" " AND LETTER$<="~" THEN 10015 ELSE IF LENGTH%<0 AND LETTER$>"/"
AND LETTER$<=":" THEN 10015
10005 IF LETTER$="," AND ABS(LENGTH%)>1 AND WORDDOT<>1 THEN PRINT LETTER$;:
WORDLEN%=WORDLEN%+1:GOTO 10016
10006 IF LETTER$="." AND ABS(LENGTH%)>1 AND WORDDOT=0 THEN WORDDOT=1:GOTO 10015
10007 IF (LETTER$="-" OR LETTER$="+") AND ABS(LENGTH%)>1 AND WORDSIGN=0 AND
WORDLEN%=0 THEN WORDSIGN=1:GOTO 10015
10008 IF LETTER$<>CHR$(8) THEN 10012 ELSE IF WORDLEN%=0 THEN 10003 ELSE PRINT
CURSOFF$;CHR$(29);:IF LENGTH%>0 THEN 10010
10009 REM
10010 WORD$=LEFT$(WORD$,LEN(WORD$)-1)
10011 WORDLEN%=WORDLEN%-1:IF WORDLEN%=0 THEN WORDDOT=0:WORDSIGN=0:GOTO 10003
ELSE 10003
10012 IF LETTER$=CHR$(127) THEN PRINT STRING$(WORDLEN%,29);:GOTO 10001
10013 IF LETTER$<>CHR$(13) THEN 10003 ELSE PRINT
STRING$(ABS(LENGTH%)-WORDLEN%,32);
10014 W%=25:RETURN
10015 PRINT LETTER$;:WORD$=WORD$+LETTER$:WORDLEN%=WORDLEN%+1
10016 IF ABS(LENGTH%)=1 THEN RETURN ELSE 10003
10017 REM *****
10018 REM * CALL ROUTINE WITH GOSUB 10000 *
10019 REM * wordlen% = length of word$ *
10020 REM * letter$ = last letter depressed *
10021 REM * length% = length of input to have *
10022 REM * worddot = toggle for the decimal place *
10023 REM * wordsign = toggle for +ve or -ve *
10024 REM * cursor$ = chr$ code for cursor *
10025 REM * curscfff$ = chr$ code to reset cursor *
10026 REM * word$ = has the result string *
10027 REM *****
```

MERRY
CHRISTMAS

TO ALL OUR TANDY 1000 AND
IBM PC CLONE USERS

GREETINGS

This is a simple data base for you to have all your names and address for your christmas card list.



```

1 REM ***** CHRISTMAS CARD REMINDER! BY BILL BARNICLE *****
2 GOTO 10
3 SAVE "xmas",A
10 DIM NME$(200),ADDR1$(200),ADDR2$(200),TWN$(200),STE$(200),PCODE$(200),PNUM$(200)
20 CLS:
30 PRINT "1 - Add a name to the list"
40 PRINT "2 - Delete a name off the list"
50 PRINT "3 - Print list"
60 PRINT "4 - Edit a name"
70 PRINT "5 - End program"
80 INPUT A
90 ON A GOTO 100,300,600,800,1100
99 REM ***** ADD A NAME *****
100 OPEN "i",1,"NAMES.DAT"
110 INPUT #1,NUMBER
120 FOR LOOP=1 TO NUMBER
130 INPUT #1,NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(LOOP),PNUM$(LOOP)
140 NEXT LOOP:CLOSE #1
150 CLS:INPUT "Please enter person's name";NME$(LOOP)
160 INPUT "Please enter person's 1st Address line";ADDR1$(LOOP)
170 INPUT "Please enter person's 2nd Address line";ADDR2$(LOOP)
180 INPUT "Please enter town";TWN$(LOOP)
190 INPUT "Please enter state";STE$(LOOP)
200 INPUT "Please enter postcode";PCODE$(LOOP)
210 INPUT "Please enter phone number";PNUM$(LOOP)
220 OPEN "o",1,"NAMES.DAT"
230 PRINT #1,LOOP
240 FOR LOOP1=1 TO LOOP
250 WRITE #1,NME$(LOOP1),ADDR1$(LOOP1),ADDR2$(LOOP1),TWN$(LOOP1),STE$(LOOP1),PCODE$(LOOP1),PNUM$(LOOP1)
260 NEXT LOOP1:CLOSE #1:GOTO 20
299 REM ***** DELETE NAME *****
300 OPEN "i",1,"NAMES.DAT"
310 INPUT #1,NUMBER
320 FOR LOOP=1 TO NUMBER
330 INPUT #1,NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(LOOP),PNUM$(LOOP)
340 NEXT LOOP:CLOSE #1
350 CLS:INPUT "Please enter person's name";NME$
360 FOR LOOP=1 TO NUMBER
370 WHILE NME$(LOOP)=NME$
380 PRINT ADDR1$(LOOP):PRINT ADDR2$(LOOP):PRINT TWN$(LOOP)
390 INPUT "Is this the correct one";PT$
400 IF LEFT$(PT$,1)="Y" OR LEFT$(PT$,1)="y" THEN 450
410 LOOP=LOOP+1
420 WEND
430 NEXT LOOP
440 PRINT "Sorry name not found!":PT$=INPUT$(1):GOTO 20
450 FOR LOOP1=LOOP TO NUMBER-1
460 NME$(LOOP1)=NME$(LOOP1+1)
470 ADDR1$(LOOP1)=ADDR1$(LOOP1+1)
480 ADDR2$(LOOP1)=ADDR2$(LOOP1+1)
490 TWN$(LOOP1)=TWN$(LOOP1+1)
500 STE$(LOOP1)=STE$(LOOP1+1)
510 PCODE$(LOOP1)=PCODE$(LOOP1+1)
520 PNUM$(LOOP1)=PNUM$(LOOP1+1)
530 NEXT LOOP1

```



```

540 OPEN "o",1,"NAMES.DAT"
550 PRINT #1,NUMBER-1
560 FOR LOOP=1 TO NUMBER-1
570 WRITE #1,NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(L
OOP),PNUM$(LOOP)
580 NEXT LOOP:CLOSE #1:GOTO 20
599 REM ***** PRINT LIST *****
600 CLS:PRINT "Make sure your printer is ready!":PT$=INPUT$(1)
610 OPEN "I",1,"NAMES.DAT"
620 INPUT #1, NUMBER
630 FOR LOOP=1 TO NUMBER
640 INPUT #1,NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(L
OOP),PNUM$(LOOP)
650 LPRINT NME$(LOOP)
660 LPRINT ADDR1$(LOOP)
670 LPRINT ADDR2$(LOOP)
680 LPRINT TWN$(LOOP);STE$(LOOP);PCODE$(LOOP),PNUM$(LOOP)
690 LPRINT PNUM$(LOOP)
700 PRINT NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(LOOP
),PNUM$(LOOP)
710 NEXT LOOP:CLOSE #1:PT$=INPUT$(1):GOTO 20
799 REM ***** EDIT NAME *****
800 OPEN "I",1,"NAMES.DAT"
810 INPUT #1,NUMBER
820 FOR LOOP=1 TO NUMBER
830 INPUT #1,NME$(LOOP),ADDR1$(LOOP),ADDR2$(LOOP),TWN$(LOOP),STE$(LOOP),PCODE$(L
OOP),PNUM$(LOOP)
840 NEXT LOOP:CLOSE #1
850 CLS:INPUT "Please enter person's name";NME$
860 FOR LOOP=1 TO NUMBER
870 WHILE NME$(LOOP)=NME$
880 PRINT ADDR1$(LOOP):PRINT ADDR2$(LOOP):PRINT TWN$(LOOP)
890 INPUT "Is this the correct one";PT$
900 IF LEFT$(PT$,1)="Y" OR LEFT$(PT$,1)="y" THEN 950
910 LOOP=LOOP+1
920 WEND
930 NEXT LOOP
940 PRINT "Sorry name not found!":PT$=INPUT$(1):GOTO 20
950 CLS:INPUT "Please enter person's name";NME$(LOOP)
960 INPUT "Please enter person's 1st Address line";ADDR1$(LOOP)
970 INPUT "Please enter person's 2nd Address line";ADDR2$(LOOP)
980 INPUT "Please enter town";TWN$(LOOP)
990 INPUT "Please enter state";STE$(LOOP)
1000 INPUT "Please enter postcode";PCODE$(LOOP)
1010 INPUT "Please enter phone number";PNUM$(LOOP)
1020 OPEN "O",1,"NAMES.DAT"
1030 PRINT #1,LOOP
1040 FOR LOOP1=1 TO LOOP
1050 WRITE #1,NME$(LOOP1),ADDR1$(LOOP1),ADDR2$(LOOP1),TWN$(LOOP1),STE$(LOOP1),PC
ODE$(LOOP1),PNUM$(LOOP1)
1060 NEXT LOOP1:CLOSE #1:GOTO 20
1099 REM ***** END *****
1100 CLS:PRINT "Remember to back up your data!"
1110 END

```

**ON A SILENT
NIGHT
YOU MAY HEAR
JINGLE BELLS...
THEN, AGAIN, YOU
MAY NOT!**

*"v09o3l4eee...eee...egcde..p4fff..feee
edded..g...eee...eee...egcde..p4fff..fe
eeggfdc..p4"
Here's another one to entertain you
now that Christmas is here. This is
a basic version.. perhaps you could
make it worth listening to... Send
it in if you do!*

Well the word DOS has popped up many times. So, what is it, who is he and is she good looking you may ask!

Basically, all it stands for is "Disk Operating System". Beek! what's that? Compare it to a car - a car can't run without an engine so too, a computer can't run without it's DOS!

When you buy your computer, it may have anything between 128K and 768K (or even more nowadays) of memory. These chips which make up the amount of memory you have in your computer, except a small proportion, are empty. That is, when you turn your computer off, whatever is those memory chips is forgotten (this is what you call volatile memory or RAM - Random Access Memory).

In amongst the amount of memory you have, a little is put away for system use. Now because this part of memory is used everytime you turn your computer on, it is made non-volatile, ie, it will hold what ever information it has in these chips when the power to the computer is turned off.

Let's use your calculator for example, it has been programmed so that every time you turn it on, it will know how to add two numbers, etc. But how does it know how to do this, especially after you turn it off.

Well the instructions are 'burnt' into the calculator so that when it has power taken away, the information is still there, then when you turn it on, it immediately knows what to do and is ready to use. Imagine having to program your calculator to add every time you want to use it!

The memory used here is called ROM which means Read Only Memory and is non-volatile. The "read only" status means that you can't change the contents of these chips - they can only be read!

When the computer is turned on, it goes to the very first chip (which happens to be the ROM chip(s) and reads the first instructions. This information tells the computer what to do: ie, to read through the memory cells and make sure everyone is OK and then activate the disk drive.

When the disk drives are started, your computer is looking for the operating system which, when loaded, will control the entire workings of your computer.

On the Tandy 1000 and IBM compatibles, the operating system is made up of three files. Two of them are hidden and generally called IBMDOS.COM and IBMBIOS.COM, the third is COMMAND.COM (and you've seen that one, yes?!)!

If by chance these files aren't found, ie, no disk in the computer or these files aren't

on the disk then the computer will respond with "non system disk or disk error".

Now, you might ask, why isn't the DOS stored permanently in the computer, along side this ROM which checks your computers memory?

The main reason is because there is so much change in computers with new versions of software that if the DOS was stored in there permanently, there would be more involved than just changing disks to change the DOS version.

Another reason is space. Most of the Disk Operating System is erased when you load in a large computer program, (you will know when this happens when the computer asks for COMMAND.COM when you finish the program). Things like DIR, COPY, TYPE (which are all DOS commands, not commands stored on the disk like FORMAT, DISKCOPY) aren't required when you're running your software. So this extra space can be used and is particularly useful when you have only 128K.

The DOS takes up about 16K of your memory, this really leaves you with (if you have a 128K computer) only 112K to use for your programs. It might not sound like much, but it is a difference believe me!!

When you bought your computer, it most likely came out with DOS version 2.xx but now there is version 3.30 which is better, faster and more efficient than the earlier DOS and you can to it, simply by obtaining the 3.3 disk and using it instead of whatever DOS you currently use.

Anyway, DOS is a language which enables you to talk to your computer. In talking to your computer you get it to run programs and list directories etc.

In learning DOS there are five main commands.

COPY - to copy programs and files

DIR - to list the DIRectory

ERASE or DEL - to erase files or directories

TYPE - to type the contents of a file.

EXIT - this one is used with advanced applications.

These commands are what you call internal. Every time your computer loads COMMAND.COM these functions are loaded and stored in memory. When you use one of these instructions, DOS knows how to execute your command, because it has loaded the COMMAND.COM. Things like FORMAT and DISKCOPY, which aren't in COMMAND.COM are external commands, they require programs on your disk to execute these commands.

You may notice when you start a program, you type the name and press ENTER, and almost immediately, the disk drive will start making noises.

DOS follows a set procedure when handling your requests. When you type something in at the A) prompt and press ENTER, the DOS first looks in memory to see if it knows that command. If by chance you type DIR, COPY, TYPE, etc it will recognise that command and then do it.

If it doesn't recognise your command, it will then think "Ahh, it must be a program on the disk that you want to run." So it will activate the disk drive and look for a name on the disk matching with what you typed in. If it doesn't find it on the disk, it will become confused and say "bad command or filename" because it was unable to do as you requested. On the other hand, if it is there, it will start loading that program and start it for you.

Now, DOS can't just run any program! Imagine your text file which has a letter to Bob Hawke and your called it LETTER.DOC on your disk. If you typed LETTER

Let's

at the DOS prompt the computer will still come up with an error. DOS can only commence to run 3 types of programs. EXE's, COM's and BAT'S. If you do a directory you are almost certainly bound to find at least one of these types.

This is handy to know because if you buy some software, and you're unsure how to start it, look at the directory for COM's, EXE's, and BAT's, then type the filename part of the name and the program will start!

If by chance you called your letter to Bob LETTER.COM or LETTER.BAT or LETTER.EXE and you typed LETTER at the DOS prompt, your computer will load that file and attempt to run it. It will then immediately give you an error of some sort saying that it can't understand what you told it to load in!

This is where the extension part of a filename is used to categorise your files.

BAT - are batch files

BAS - are files which have been written in BASIC.

DOC or TXT - are generally word processor files. DOCUMENTS or TeXT.

SYS - are system files. They are loaded when you boot your computer and

enable you to have colour DOS statements, redefine keys, and install mouse drives, etc.

EXE, COM - Executable files which are programs ready to run.

MAC - Macro Files

OVL - Overlay Files etc, etc

The extension helps you to put the program into categories. You do not need an extension for a filename, however, the file can't just contain an extension, it must have a filename part. Also, a filename can't have any spaces in the middle. So things like LE ER.TXT would not be accepted by DOS. However, LE ER.TXT would be OK since the _ is a character. I put the DOT in there because a file is defined by filename.ext the dot separates the two bits of data.

These are only guidelines and do NOT have to be used in the same way. An extension for a filename can have any

Any disk can't be used in any computer, it has to be FORMatted to that computer.

Imagine your disk as a blank piece of paper. If you were to write on it, there would be little chance of your writing perfectly in a straight line. If you were to write until the paper was full, then there probably would be lots of space 'wasted'.

If in the case of your disk, the computer would be writing information anywhere and then to recover it would be near impossible! Format is used to 'put lines on your paper' or organise the paper so that when you write on it, you will be guided to put everything on neatly and little space would be wasted. You will also know how many lines you have left to write on before you require a new piece.

Format erases the disk, and allocates clusters, and sectors to your disk (lines). It also

makes up a file allocation table, which keeps track of where all your files are located on your disk.

The file allocation table also tells you how much free space you have left before you need a new disk.

To use FORMAT all you need is your MS-DOS disk (because FORMAT is an external command) and type:

FORMAT B:/v/s/8

please note though - the /v/s/8 are all options and don't need to be used.

/v - puts a volume label on your computer. A volume label is just a label which is written on the disk. It shows when you do a DiRectory. A volume label may contain any variation of 11 letters or numbers.

/s - makes the new disk rebootable, ie it puts the DOS onto the disk so you can start the computer with this disk instead of your MS-DOS disk.

/8 - formats your disk to 8 tracks per sector instead of 9. This is rarely used!

DISKCOPY is used to copy the entire contents of one disk to another. The format for this is:

DISKCOPY A: B:

This program is used when you need to make backups of your master diskettes.

BASIC is the language which enables you to make your own programs. To start it, all you do is type BASIC at the MS-DOS prompt and away you go!

talk DOS

combination of up to 3 letters, numbers and some symbols.

For a new user, you only need to know a few things about DOS to get you going. These are DIR, COPY, FORMAT, DISKCOPY, and BASIC.

DIR gives you a DiRectory of what is on your disk. When you type DIR you will see many programs each with a filename and an extension. The filename is only 8 characters long and the extension only 3. Generally when you name a file you create, you will call it something which will remind you of the file. For example a file which holds names and address, you might call NAMES, ADDRESS, NAM&ADD, or something similar.

COPY is used if you want to copy files from one directory to another. The method to use is

COPY filename.ext filename.ext where the first filename.ext is the name of the file to copy and the second the new name to give it. If you put in a drive name as part of the filename, then it will copy from one disk drive to another. EG COPY A:COMMAND.COM C:COMMAND.COM (copying COMMAND.COM from drive A: to C:)

FORMAT is used to prepare a disk, so it can be used to store information.

By Deon George



REVIEW:

Software — KID'S WORD BY FREE-SOFT

PRICE: \$12
(PLUS \$3
postage)

Good idea... but I am not sure that it will be a success.

I found it very hard and slow to use, but then I think it is because I am used to using much better and complicated word processors.

One thing which I noted immediately and I didn't like was the fact that the backspace key didn't work!

If you wanted to delete a character, you had to go in front of it and then press DEL. Thus having two key strokes to delete one character.

This could get very frustrating and confusing if you made a mistake just a few characters back.

Another problem the program had was when inserting text between two words. If by chance the text was to wrap around to the next line, it took half the word you were typing with it! For example, when you were typing HELLO in between two words, and one of the words wrapped around to the next line, your HELLO would come out as LLOHE!

It has two screen modes - big characters for the littlens and

little characters for the biggens! - for when you are reading through it!

You can fit about 15 characters per line when you are in the big character mode and about 40 characters per line in small print.

This word processor has the same basic functions as any other word processor.

It is able to delete files, (with verification first) and view the documents on your disk (only the word processing documents).

Also you are able to create new documents and edit old ones. Only the very simplest and basic functions are used in this program.

I think this idea is basically sound. You can sit your young child in front of the computer, and get them to type in a story... Great way to learn how to type and to use a word processor as well as familiarising them with basic computer operations.

Kids word is available from Free-Soft International, PO Box 398, North Balwyn, VIC 3104.

It is priced at \$12.00 with \$3 to cover postage.

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IN BRIEF

VIDEO-COMPUTER-TELEPHONES

Wow! You can now talk to someone using your PC computer!

The Minx (Multimedia Information Network Exchange) system unveiled two years ago a way of providing a videophone, video conferencing voice and data transfer system.

All that is required is a Minx display which replaces your existing IBM colour display and a special controller. This cluster controller controls the movements of the video images on the screen.

Using the system, up to 8 people within a building can hold a conference on 'video'. They would be able to talk to each other through a camera,

speaker and microphone which is built into the Minx display.

The system works by voice activation, which means when the person starts talking, he/she will come in focus on the screen and be seen by everyone as he/she is talking.

It is mainly designed for large offices, where-by people may hold a conference while still in their own office with or without guests.

The system, providing you have the right connections and links, may also be used in any part of the country or even over the world. With a satellite set up, you can have a live visual conference.

ROBOTS IN FAST FOOD JOINTS!

Imagine your McDonalds hamburger put together by a robot!

As we all know Robots help build cars and do their job more efficiently than a pair of human hands. But to prepare a hamburger, it has been proved that human hands are better at it!

A restaurant in Wisconsin is trying a robot to prepare

hamburgers. The robot finds it somewhat difficult to handle the job since a hamburger is soft and easily squashed.

The robot grabs the bottom of the bun, puts on a meat patty and then puts the top half of the bun on. The hamburger then goes down a super heated tunnel until such time as a human puts the trimmings on and sells the burger.

The robot works between two humans and asks for the buns by means of flashing lights. But if the buns are handed to the robot too quickly, problems occur.

All the food handling parts of the robot are made of stainless steel, which can be removed and placed in a dishwasher.

The robot has attracted engineers from Burger King and they donated equipment to the restaurant. Just think, in a few years time, you may roll up to McDonalds and ask a robot for a McFeast!

COMPUTER PROJECTION

Sharp have released a computer projection panel which consists of 640 x200 pixel flat bed super twisted, high contrast LCD display.

The panel enables the user to display information on a computer monitor onto an overhead projector so that real time updates may be made and seen instantly.

THE COMPUTER CUP

The Melbourne Cup was odds on to become the first computer cup, with every possible combination of horses, riders, tracks and results computerised.

All this mass of information was used by bookies all over Australia to get the best idea of who was to win!

Australia's biggest bookie, Dominic Beire, who took over \$62 million in bets last year, computerised all his betting records to cope with Cup fever. He said that "the computers were terrific. All of my horse ratings are worked out by computers".

Last year NSW TAB's three IBM mainframes handled 3.18 million CUP bets, before the big day. On the day, they handled 16,000 transactions a minute - almost 270 a second!

MOTOR CYCLE SIMULATION

Ever wanted to take a ride on a motor bike but was afraid of the dangers?

Well, in West Germany the world's first motor cycle simulator has been developed. The first element of the simulator is described as the Computer Generated Image Visual System or CGIVS.

This consists of a special computer capable of producing artificial illusions in a real time atmosphere.

CGIVS stores complete landscapes including buildings and traffic elements. It calculates the angle of vision and the dynamic changes which result from the drivers reactions and then displays this as a real animated picture. Every moment it obtains information on the position of motor cycle along its route from the central computer of the simulator.

The system is complete with a real BMW K100 motorcycle donated by BMW.

Steering, starting, clutch movement, gear changes, throttle movement and braking are all simulated by the sensors which are attached.

COMMODORE COMPUTERS

Commodore have signed a \$12 million agreement with IPL-Datron a Sydney based computer peripheral distributor to market a range of PC printers. Under the agreement, IPL-Datron will supply laser, dot matrix thermal printers for the Commodore.



Well possums! I've just been doing a few turns on my broomstick and I couldn't help but notice all that electronic trash you mere mortals seem to be hanging on to. Just like a lot of little bower birds, aren't we!! Ummmm!!

If any of you darling little possums would like to swap that junk for cash then why not place your ad here.

We'll run your ad for three months - and remember possums, let us know if your junk sells so we can adjust our records - and you never know, you just might be able to make enough money to purchase a super turbo charged "stick" like mine.

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Martha.

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- * Telewriter-64 disk & tape with manual.
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Phone Roy (02) 759-3357 with price.

For Sale

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- \$ 25: Musica II
- \$ 70: ono; OS-9 Pascal Compiler
- \$200: ono; DMP-100: excellent condition
- \$280: ono; Avtek mini-modem & software for CoCo III

Please write to David Ly,
4/184 Donnelly St,
Armidale, 2350
... or call (067) 728-082

Dec '87

- \$ 15: Spelling, Maths Invaders, Austquiz
- \$ 18: Best of #2 & Best of #8
- \$ 25: Electronic Typing Tutor, Aussie Accountant.
- \$ 30: Don Pan (ROM Pak)
- \$ 40: Spectaculator (ROM Pak)
- \$ 50: Sripsit (ROM Pak)

All above titles are in original packaging and with instruction manual.

Phone Hamish Purdey (03) 842 7819 after 5pm, or anytime on weekends.

Nov '87

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Will sell as a complete set for \$850, or nearest offer (ono).

Ring Leonard Walbaum on 07-202-6413.

Dec '87

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Phone Jeremy Fletcher on (066) 49 3014 ah.

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Phone John Poxon on 07 208-7820.

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GIVEN NAMES

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SUBURB/CITY

STATE

POSTCODE

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TELEPHONE NUMBER ON WHICH SERVICE IS REQUIRED (INCLUDING STD CODE)

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SUBURB/CITY

STATE

POSTCODE

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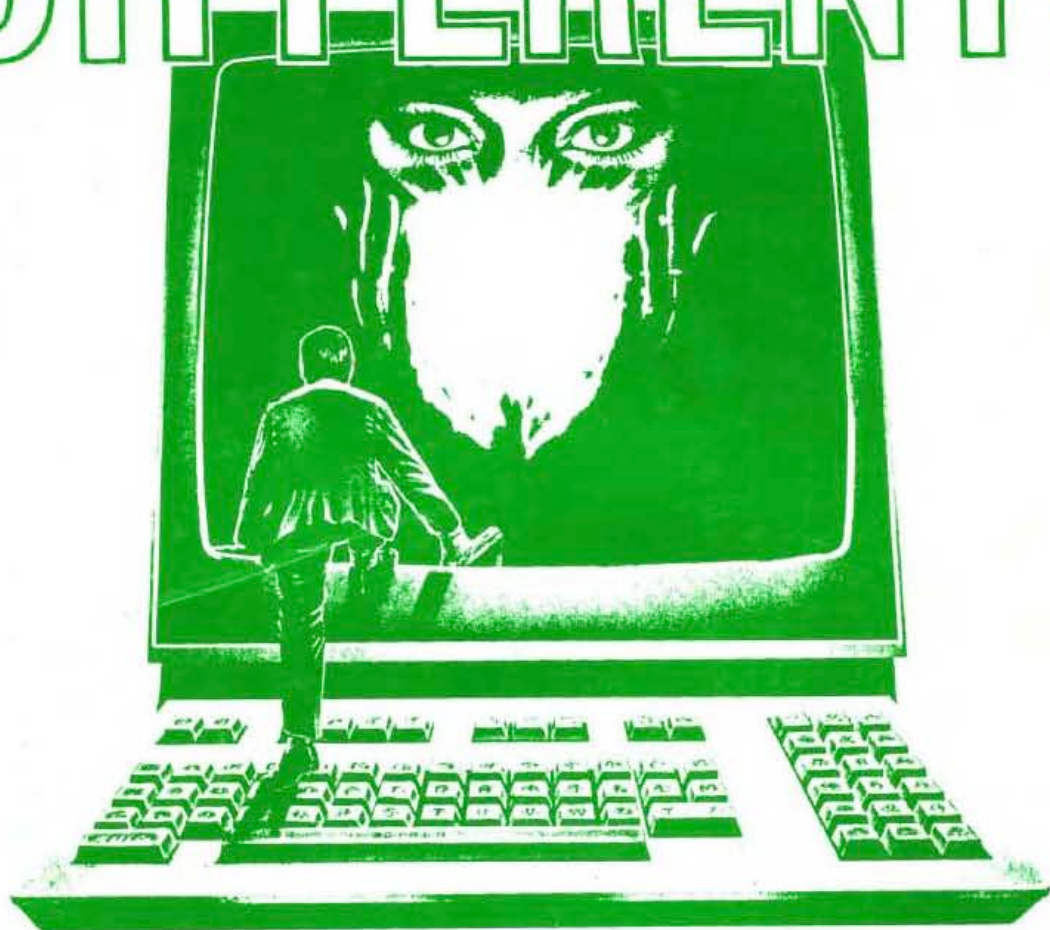
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